

# FLIGHT

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A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

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FLYING AT BROOKLANDS.—The scene at Brooklands in our top photograph on Saturday last was the occasion of the auction for the first passenger to ascend on that day with Mr. Grahame-White in his Henry Farman biplane, when Lady Abby secured the right against Miss Pauline Chase by a bid of 120 guineas. In the lower photograph Mr. Astley is seen flying on his monoplane.

## SAVE US FROM SOME WOULD-BE FRIENDS!

THERE are two people from whom those engaged in the serious development of any new movement should pray to be delivered—the company promoter and the pseudo-expert writer for the Press. With the wiles of the former we are all familiar, and everyone can therefore make all the necessary allowances for his rose-coloured view of things before making up their minds to part with their money. The promoter and his sins of omission and commission have been too often the subject of discussion for us to concern ourselves with his doings now—at least, in a general way. What we may have to say on things specific from time to time is another matter entirely.

The science of flight, whether in the heavier-than-air machine or in the less wieldy dirigible, has unquestionably made huge advances during the past two years; but, far as it has progressed, it is even yet in an elementary stage of development by comparison with what it will be. It has, however, progressed just far enough, and has been enough in the public eye for the newspapers to lose no chance of showing their interest in a movement which has taken the popular fancy in a very marked degree. For that we, as being very intimately concerned with the progress of the science, tender them our very sincere thanks for the inestimable help that they have given to the movement by according it the widespread publicity it has been given. The growth of popular interest, and the need for the specialist writer that it has called forth, however, bid fair to bring in their train a repetition of the state of affairs that obtained during the earlier days of motoring. When motoring first began to take hold of the popular fancy there were not enough expert writers on the subject to go round, and the consequence was that the general Press became a by-word for the ex-cruciatingly funny things that were written about the new locomotion, and nearly every technical journal kept a special column devoted to "howlers" perpetrated by the general Press. So long as these "howlers" were merely funny they could be tolerated as adding to the gaiety of the nation, but there is another aspect of the matter which is very far from humorous. The company promoter of the day made use of the expert (!) writer to foist his schemes upon the investing public, and fooled him to the top of his bent. In saying this we are not casting any reflections on the probity of the writers of the time—we have the very highest opinion of the morality of the British newspaper Press—but in point of knowledge they were lacking in the essentials, and therefore perforce took for granted what was laid before them by those who were assumed to be in the know.

It was in acceptance of statements that people were "going to do" all kinds of things which proper knowledge of the subject would have shown almost at a glance were impossible, that the Press of the time were at fault, and much money was lost by the investing public as a consequence.

We have endeavoured to point this moral from what has gone before, because we see some little danger of the same thing recurring in matters affecting aviation. In the main we are only too willing to admit that many of the men who write on aviation matters in the public Press are able writers who have graduated through the school of motoring, and who have followed the new movement with a close and scientific interest since it began to be a practical proposition. They at least are not likely to

be taken in by the purveyor of "futures"; but, unfortunately, there are not wanting signs that the inventor whose performances in actual flight are likely to materialise somewhere about the Greek Kalends, is finding a willing listener in the guileless Pressman. We are minded to these remarks by the statements contained in a daily contemporary regarding the actual details of a new airship which is to fly the Atlantic with the same ease and certainty with which the passage is accomplished by the *Lusitania*. One or two of the statements contained in this article are worthy of comment. We are told that a "remarkable feature of this airship is that by the construction of its engine it can use either gas or petrol at the same time or separately; by this means automatically lessening its weight by using petrol and then using gas to prevent the rise which otherwise the decrease in weight would cause." How delightfully simple! The one serious drawback to this most intelligent method of compensating for differences in weight lies in the fact that hydrogen gas has a habit of escaping from the envelope rather quicker than can be compensated for by the use of petrol for propulsive purposes. Possibly to neutralise any slight difference in theory it would be found practical to fit a large cock in the bottom of the petrol tank, so that in order to maintain a constant altitude, petrol—which we are told takes the place of ballast—can be drained away to equalise loss of lifting power through escape of hydrogen!!! Another feature of this most wonderful craft is that "it is not affected by change of temperature or hot sun, as have been all previous airships. The action of the sun affects the volume of the gas; the action of rain overloads the balloon. But in the airship in question these two effects are compensated by the regulation in a single apparatus of the amount of petrol or gas to be burned in the motor." How very wonderful!

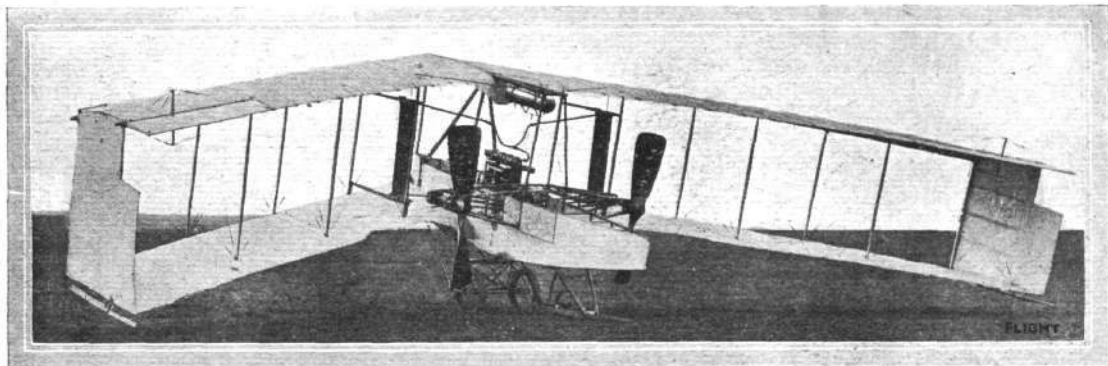
There is a good deal more in the description of this marvellous craft, which is to revolutionise all our ideas of aerial navigation—*when* it materialises. The designs, apparently, are still on the drawing-board. It is this looking ahead, in absolute confidence that the inventor can and will do all that he would like to achieve, to which we take exception. Ninety-nine per cent. of these wonderful schemes end in smoke, and it is not fair to the public which, in the majority of cases, is asked to put up the money immediately after one of these "expert" articles has gone the rounds of the Press. What we want to know about these wonderful machines is, not what they are *going to do*, but what they *have done*, before committing ourselves to definite statements about their capabilities. It is the primary function of a newspaper to furnish its readers with *reliable* information, and we maintain that the information purporting to be given in articles such as that we have before us is not in any sense reliable in the light of our present knowledge of aerial navigation. It is, moreover, unfair to the public to tell them that this or that quite unproved machine *will* do this and of a certainty *will* accomplish that. Statements such as are made in this article with which we have been dealing are utterly unjustifiable *in advance*. The machine may conceivably do all and more than is set forth; but even if it should do so, we shall still contend that it is entirely wrong for a public writer to take these things on trust and to give them an appearance of having received independent editorial verification.

## THE DUNNE AEROPLANE.

(Concluded from page 462.)

It has been said above that the wing is flat where it joins the body, but actually this is not the case, for although the wings are undoubtedly made up on the above-mentioned principle, which would give a flat section in the place indicated, a secondary consideration introduces the necessity for a certain form of curvature in

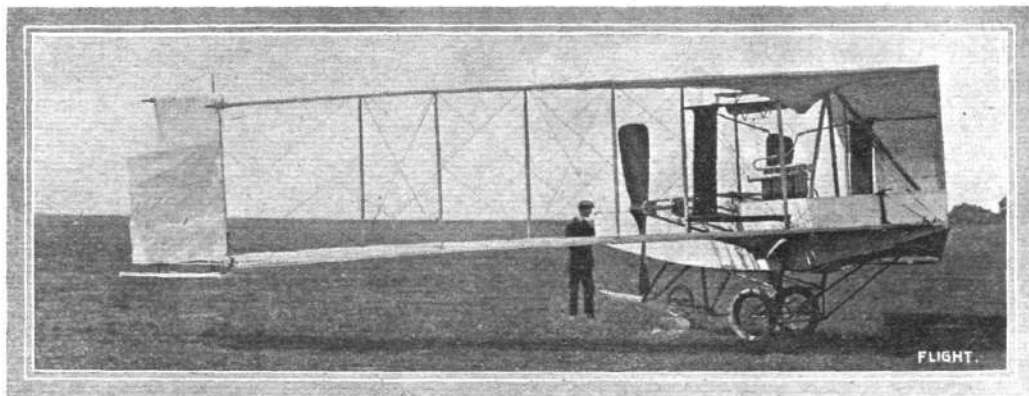
where in the middle of the wing, and negative at the tip. If the angle of incidence at the tip is positive, then the angle of the whole wing will be positive, and conversely if the angle at the root is negative then the angle of the entire wing will also be negative. Insufficient experience has been obtained to show what is exactly the normal



General view of the Dunne aeroplane taken from behind. This illustration also shows the twist on the main decks in a very marked manner.

this particular part of the wing, which, as a matter of fact, is extremely cambered at that point and for about two feet from the body. Here again, however, the camber is not uniform, and it is obtained entirely by deflecting the trailing edge. Its purpose, which has nothing whatever to do with the general action of the

flying attitude of the Dunne aeroplane. Lieut. Dunne himself imagined that it would be such as to reverse the algebraic sign of the angle of incidence somewhere in the vicinity of the outer extremity of the wing, but some of those who were eye-witnesses of the flight declare that the datum line to which the trailing portion of the



Side view of the Dunne biplane taken from in front and looking down one of the leading edges. The supplementary camber in the central portion of the trailing edge is illustrated in the above photograph.

machine, nor with the general principle on which the wings as a whole are designed, will be referred to later.

By the aid of the little paper model it is easy to appreciate that most important salient feature of the wings on the Dunne aeroplane, viz., that the angle of incidence becomes less towards the outer extremity of the wing. With a certain normal attitude it will even change its algebraic sign, being positive in the vicinity of the body, zero some-

wing is parallel, was horizontal in flight, which would mean that the entire wing was flying with a negative angle of incidence.

It may be mentioned that the entire machine is constructed to a datum line, which is carefully laid off in the body. The upper part of the body framework lies parallel to this line, and thus affords an easy mark of observation in flight. That portion of each wing which

does not follow the surface of the cone, but juts out tangentially from the diagonal, is constructed so as to lie in the plane of the datum line, and consequently what-

some discussion in FLIGHT, and we expect to have still more ere the mathematics of the cambered aeroplane is properly understood.

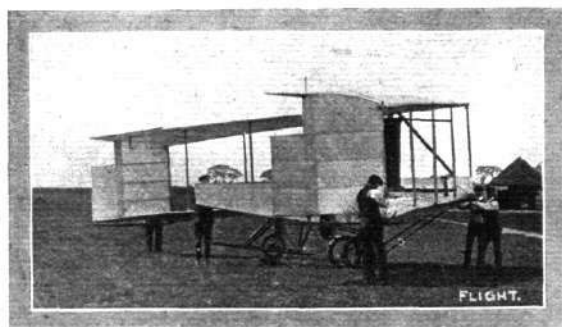


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Another side view of the Dunne biplane looking down one of the leading edges from the wing extremity. Careful study of the shape of the vertical panel in the foreground reveals the negative angle of incidence at the extremity of the upper deck, and also the diverging gap.

ever may be the observed angle of the datum line in flight, that also is the angle of the tangential trailing portion of each wing. The angle of incidence represented by the chord between the leading edge and the

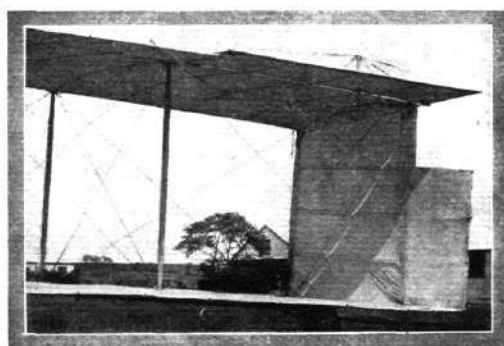
Reference has been made above to the extreme depression of the trailing edge of the wings adjacent to the body. This feature was introduced as the result of some early model experiments that showed it to be necessary to stability for the extreme case in which a model was let fall vertically bow first. It is to be hoped that no ex-



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Side view of the Dunne aeroplane. Careful inspection of this photograph will convey an accurate conception of the varying camber of the planes. It is comparatively easy to grasp the position of the imaginary cone on which the camber is laid off by studying the upper deck in the above photograph.

trailing edge will of course be less than this, so that if the datum line is observed to have zero angle (*i.e.*, be horizontal) in flight, it necessarily follows that the angle of incidence is everywhere negative. On this subject of the negative angle of incidence we have already had



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View of one of the wing extremities on the Dunne biplane showing the arrangement of the steering flaps.

perience of this sort may befall the full-sized machine in flight, but Lieut. Dunne decided to retain the feature for what it was worth.

Coupled with the above description, the accompanying photograph ought to render the general arrangement and



leading details of construction of the wings of the Dunne aeroplane sufficiently comprehensive. Incidentally it may be remarked that this machine is one of the most difficult to illustrate by photographs of any that we have seen. Any one view, taken by itself, almost invariably leads to a wrong impression with anyone who is not familiar with its actual features. The view from in front is apt to suggest that the machine is nothing but an arched biplane, whereas, in fact, the amount of arching that actually exists, for constructional convenience rather than as a principle of design, only amounts to a few inches. In order to overcome the difficulty we have taken photographs of the machine from almost every point of the compass, so that by comparing one with another our readers may elucidate for themselves any feature on which they are in doubt. These photographs, too, are extremely well worth studying in detail, for every one of them shows some characteristic feature of this most interesting machine.

The wings are double surfaced, and built up on two main spars that are reinforced with numerous shaped ribs; the upper surface was regarded as the more important curve. The upper deck is supported above the lower deck by struts and diagonal wire bracing, the attachment of the struts and spars being effected by means of the steel ferrule joint adopted by Short Brothers. Vertical panels are fitted to the

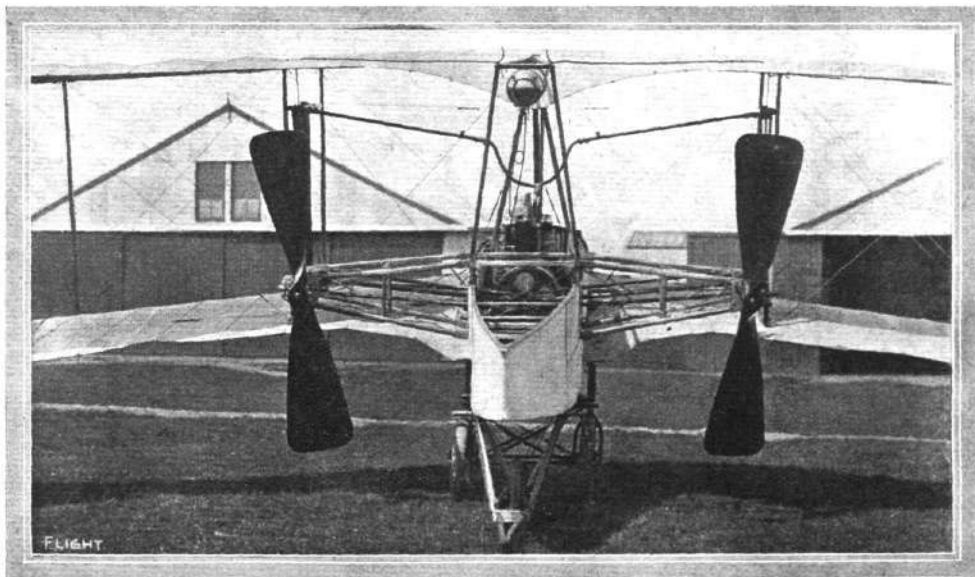
hinged flap is inserted at the extremities in order to afford a means of steering the machine. These flaps are coupled up by wires to a pair of levers, one of which



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View of the chassis on the Dunne aeroplane. It should be observed that the principal members, A, are in tension. Each wheel can rise independently of the other.

is situated on either side of the pilot. The flaps are thus independently controlled, and can be used either as rudders or as an elevator. When steering to the right the right-hand lever is drawn backwards, and the left-

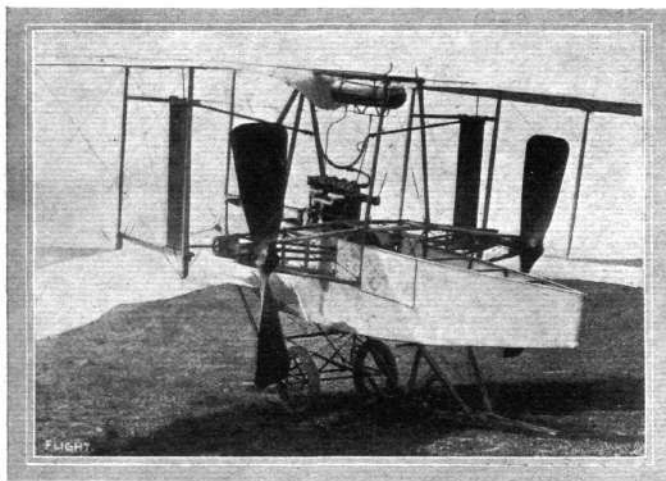


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General view of the beam that supports the propellers on the Dunne biplane.

extremities of the wings, principally because it is thought that their presence tends to increase the lifting efficiency of the planes by preventing too much leakage at the extremities. In the trailing edge of the upper deck a

hand lever simultaneously pushed forwards. These actions result in the flap on the pilot's right having its trailing edge elevated, while the flap on the pilot's left has its trailing edge depressed. For ascending both

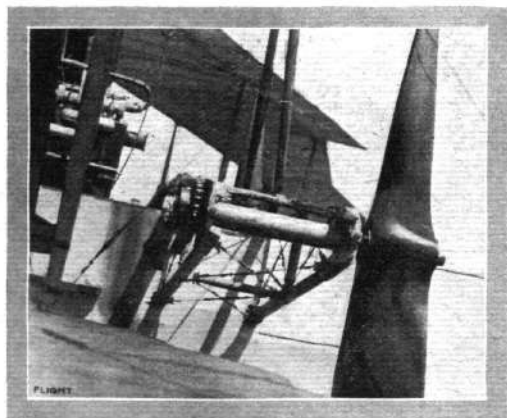


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Another view of the propellers on the Dunne aeroplane.

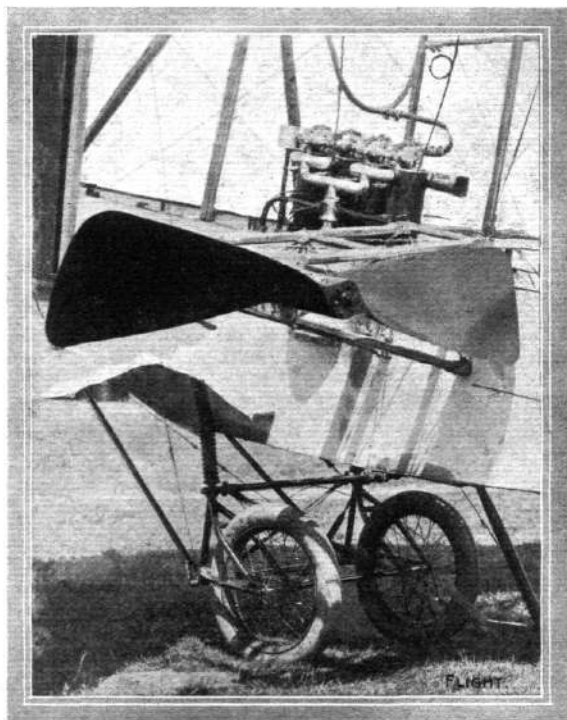
levers are simultaneously pulled backwards, which raises the trailing edges of both flaps.\*

The pilot's seat is situated in the bows of the machine, the seat being formed inside the principal longitudinal girder, which is a lattice-work construction of timber and strip steel, shaped somewhat on the lines of a flat-bottomed boat. The bows and the stern come to a sharp edge, but in the centre there is sufficient beam to accommodate the 50-h.p. Green engine that drives the twin screws. The pilot sits a little in front of the engine, and there is just room for a passenger behind the pilot. The sides as well as the bottom of the girder are covered in, so that the pilot's head is alone exposed. Lieut.



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Detail view of the mounting of one of the propellers on the Dunne biplane.



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View of one of the propellers on the Dunne biplane showing its general shape.

Dunne is of opinion that this surfacing of the girder and the almost complete enclosing of such principal masses as the engine and pilot is of very great importance, not

\* For an explanation of the aerodynamic reactions accompanying these actions, see Lieut. J. W. Dunne's letter in Correspondence.

the direction of the air stream that the girder of the Dunne machine is so carefully surfaced.

The twin propellers that drive the machine are carried on the extremity of a light transverse lattice-work beam, and are driven by chains from the crank-shaft.

The propellers are 7 ft. in diameter, and have a pitch of 7 ft 6 in. Both revolve in the same direction; the torque is balanced by a lead weight attached to one of the skids that protect the extremities of the wings. The propellers were constructed by Short Brothers to the designs of Capt. Carden. Their bosses are fitted with twenty-tooth sprockets, and the sprocket on the crank-shaft has twelve teeth. The engine runs at about 1,100 r.p.m.

The petrol tank is carried immediately above the engine on a light frame, and the radiators are mounted in the gap between the main planes, where they are supported upon bearers attached to the vertical struts.

The chassis upon which the machine is mounted is also an interesting piece of construction, although naturally its present form is not essential to the machine; it was, however, designed at a time when the wheeled chassis was the only device in practical use, and it should be judged accordingly. Compared with the original Voisin chassis, it possesses some interesting modifications

that it is only proper to recognise as improvements. The hubs of the two wheels are universally-jointed to an axle that holds them at the required distance apart. They are carried in a double fork that is attached by a couple of radius-rods to the girder member of the machine. The arrangement of these radius-rods is such that they are always in tension, which is a far more suitable stress for tubular work of this description than a compressed strain. The accompanying illustrations show how the helical springs are arranged to give the requisite suspension. The rear end of the girder is supported by an independent single-wheel chassis that combines a skid, and the nose of the machine is also fitted with a single wheel, which, however, is not shown in our photographs. This latter member is so placed that when it makes contact with the ground the aeroplane is in its running position. This facilitates starting, because it prevents the machine from being tilted too far over, and yet it avoids the necessity of trying to get under way with too great an angle of incidence.

## LANARK INTERNATIONAL AVIATION MEETING, AUGUST 6TH AND 8TH TO 13TH.

Under the auspices of the Scottish Aeronautical Society associated with the Royal Aero Club of the United Kingdom (subject to the Rules and Regulations of the Federation Aeronautique Internationale).

### PROVISIONAL PROGRAMME AND REGULATIONS.

**I. Long Distance Competition** (flying circle, on four days).—Total prizes, £940. *a.* For the longest single flight around the flying circle, without touching the ground, during the entire meeting. First prize, £250; second, £100; third, £50.

*b.* For the longest single flight on each day of this competition. First prize, £25; second, £10.

*c.* For the greatest number of circuits made under this competition during the entire meeting. Only circuits completed without touching the ground will be reckoned. First prize, £250; second, £100; third, £50.

A competitor must have completed a distance of at least 25 miles to be eligible for the first prize, and 15 miles to be eligible for the second prize, under headings *a* and *c*.

**II. Cross-Country Flights** (from the starting point round a given mark, say 6 miles distant, and back, on three days).—Total prizes, £1,320. *a.* For the aggregate of cross-country flights, made without touching the ground, during the entire meeting. First prize, £400; second, £200; third, £100. A competitor must have completed a distance of 24 miles to be eligible for the first and second prizes, and 12 miles to be eligible for the third prize. Only completed flights will be reckoned.

*b.* For the fastest single cross-country flight, without touching the ground, each day of this competition. First prize, £100; second, £30; third, £10.

*c.* For the fastest single cross-country flight, without touching the ground, during the entire meeting. Prize, £200.

**III. Aggregate Long Distance.**—Prizes, £900. In addition to the prizes under Competitions I and II, the following prizes will be given:—

*a.* For the longest aggregate distance flown during the meeting under Competitions I and II taken together. First prize, £400; second, £200; third, £100. A competitor must have completed a total distance of at least 50 miles to be eligible for the first prize and of 30 miles for the second prize.

*b.* For the longest aggregate monoplane flights for the entire meeting under Competitions I and II taken together. Prize, £200. A competitor must have completed a total distance of at least 30 miles to be eligible for the prize.

**IV. Speed Competitions** (each day). Over five circuits of the course, 8 miles 1,300 yards or thereby.—Total prizes, £1,325. For the fastest single flight over five circuits of the course, without touching the ground, during the entire meeting. First prize, £200; second, £100; third, £50.

For the fastest flight each day over five circuits of the course, without touching the ground. First prize, £50; second, £30; third, £20.

For the fastest single circuit of the course, without touching the ground, each day. Prize, £25.

For the fastest single circuit, without touching the ground, during the entire meeting. Prize, £100.

**V. Greatest Altitude** (each day).—Total prizes, £915. For

the highest altitude attained during the entire meeting. First prize, £400; second, £200; third, £75.

The award of these prizes will be subject to the following altitudes being reached: For the first prize, 500 ft.; for the second and third prizes, 300 ft.

For the highest altitude each day of the meeting. Prize, £20.

A special prize of £100 will be awarded to the monoplane which attains the greatest height during the meeting.

The Clerks of the Course shall have the power to reckon as equal competitors whose recorded altitudes differ by less than 2 per cent.

**VI. Weight-Carrying Competition** (each day).—Total prizes, £690. First prize, £250; second, £125.

For the best each day of the meeting. First prize, £30; second, £15.

These prizes will be awarded, in order, to the competitors carrying the greatest weights on their machines for one complete circuit of the course, without touching the ground. The Clerks of the Course will announce beforehand further instructions with regard to the point of landing.

At least one passenger of not less than eighteen years of age must be carried, and competitors shall be at liberty to add any dead weight they may desire. The weight of the pilot, his passenger or passengers, and such dead weight shall be deemed the total weight for the purposes of the competition, and such weight must amount to 350 lbs. at least. Dead weight shall be in rolled sheets of lead.

The competitors shall be solely responsible for the supply of passengers and dead weight, and for the fixing of the latter to the machines; and each competitor shall be held solely responsible for any accident or mishap which may occur to his passengers in the course of the competition.

In the event of two competitors carrying equal weights the preference will be given in awarding the prizes to the competitor who makes the fastest round.

The committee will verify the weights carried at the conclusion of each flight.

**VII. Starting Competition** (each day).—Total prizes, £385. For the entire meeting. First prize, £100; second, £50; third, £25; fourth, £10.

For each day of the meeting. Prize, £20.

These prizes will be awarded, in order, to the competitors who succeed in rising from the ground in the shortest distance. Various attempts may be allowed, such number to be intimated beforehand by the Clerks of the Course from time to time, and the same number of attempts shall be allowed to all competitors.

The use of starting devices or accessories, other than such as are carried on the machine in flight, will not be permitted for the purpose of the competition.

A special prize of £60 will be awarded for the best starting performance under these conditions during the meeting with a passenger, over 18 years of age, and weighing not less than 120 lbs.



**VIII. Alighting Competition** (each day).—Total prizes, £395. For the entire meeting. First prize, £100; second, £50; third, £25; fourth, £10.

For each day of the meeting. First prize, £20; second, £10.

The above prizes will be awarded, in order, to the competitors who shall attain the highest aggregate of marks throughout the meeting. The conditions of this competition will be announced later.

**IX. Slowest Circuit** (on four days).—Prize, £100. This prize will be awarded to the competitor who shall complete one circuit of the course at the slowest speed, subject to the provision that, in deciding the award of this prize, the Clerks of the Course shall be sole judges as to whether or not the circuit made by a competitor is the shortest that could be safely made, consideration being given to the force and direction of the wind and the condition of the atmosphere.

**X. Delivery of Despatches** (on six days).—Total prizes, £350. For the best performances over the whole meeting. First prize, £100; second, £50; third, £20.

For the best each day of this competition. First prize, £20; second, £10.

Competitors will be required to drop a weight (representing a message) over a given spot. The competitors whose messages fall nearest to the spot indicated receiving the prizes in their order. The number of attempts to be allowed will be intimated by the Clerks of the Course, from time to time, and an equal number of attempts will be allowed to each competitor. The Clerks of the Course will beforehand give the competitors all explanations as to height to be attained, and distance to be traversed, before delivering the message, &c.

**XI. Prize for Competitors' Assistants.**—Total prizes, £130. First prize, £60; second, £40; third, £20; fourth, £10. The above prizes will be awarded at the conclusion of the meeting for distribution among the assistants of the competitors who, in course of the various events in the programme, shall have covered the greatest number of complete circuits of the course.

**XII. Prizes for General Merit.**—First prize, £300; second, £150; third, £100. To be awarded at the conclusion of the meeting to the competitors who, in the opinion of the Clerks of the Course, have performed most meritoriously during the meeting.

It is proposed that the circle flights should take place on four days, the cross-country flights on three days, slowest circuit on four days, the delivery of despatches on six days, and all the others on every day of the meeting.

The Clerks of the Course will be at liberty to decide the day or days on which, and the hours between which, each competition shall take place, and to alter or vary these from time to time as they think proper.

The order of starting in each case will be determined by the Clerks of the Course by lot or otherwise at their discretion.

Any competitor not starting within fifteen minutes of the time appointed shall lose his turn, and shall then only be allowed to start at the discretion of the Clerks of the Course.

No competitor can be awarded more than one of any series of prizes—e.g., no winner of a first prize can also be awarded the second or third. In the event of the prizes offered exceeding the number of competitors who qualify for prizes in a competition, the excess of prizes will be retained by the Organising Committee.

Except as regards Competitions I and II being reckoned in determining the results of Competition III, and Nos. XI and XII, the performances in one competition, unless the Clerks of the Course intimate otherwise to the competitors beforehand, will not be reckoned in determining the results of any other.

The methods of determining altitudes or other data in respect to the competition shall be decided by the Clerks of the Course, whose decisions shall be final and without appeal.

The Clerks of the Course are empowered to affix to any competing machine any device they may deem advisable for ascertaining whether the machine to which such device is affixed have touched the ground in its journey round the course, or any device for indicating or recording the altitude attained, or other data. More specific and detailed regulations relative to the competition will be published beforehand.

The length of the flying circle is 3,075 yards or thereby, and the Timekeeper's hut is about 1,100 yards beyond the starting point.

## General Regulations.

I. All the events in the programme shall be competed for under the rules and regulations of the Federation Aeronautique Internationale, which alone shall be applicable to all questions or cases unforeseen or undealt with in the regulations specially applicable to this meeting.

II. All the events in this programme shall be open to competitors of any nationality duly qualified under the above-named rules and

holding pilot aviator's certificates issued by one of the clubs comprised in the Federation.

III. All the events in the programme are open to all types of machines heavier than air and without distinction of power, form, method of starting, or (except as provided under Competition VII).

IV. The list of entries will close on July 4th, 1910, at 12 o'clock noon, and entries must be lodged prior thereto with the Secretary of the meeting, Mr. Robert J. Smith, C.A., 163, West George Street, Glasgow, on forms provided for the purpose, which may be had on application to the Secretary. Each entrant shall, on making his entry, deposit an entry fee of £40, which will be refunded if, in the course of one of the events in this programme, a flight of three rounds of the course is made without touching the ground.

V. Each entrant must lodge with the Secretary, not later than July 4th, 1910, a form specifying the type and make of his machine, engine, &c., and provide the Committee with any other information which they may require relative thereto, or to the qualifications of the pilot.

VI. The Executive Committee reserve the right to limit the number of entries, to require certificates of previous performance before accepting entries, and to refuse any entry at their discretion without assigning a reason. The entry money of any entrant whose entry is refused will be returned. The Committee shall be at liberty to close the entries at an earlier date than that specified, or to accept entries lodged with them later than the date named, if they think proper.

VII. All machines taking part in any of the events on the programme must be delivered at the aviation ground not later than 12 noon on August 5th, 1910, and no machine taking part in any of the events shall be removed from the ground before the conclusion of the meeting except under special permission in writing from the Secretary of the meeting. The Clerks of the Course shall have power to examine any machine at any time prior to or during the meeting, and to prohibit its use during the meeting or any part thereof, if in their opinion its use might endanger the safety of the pilot, his passengers, or the public.

VIII. It will be competent for the entrant, with the permission of the Clerks of the Course, received in writing under the hand of the Secretary of the meeting, to change the motor, or any other part of the entered machine, or to substitute another machine of the same type and make.

IX. No machine may display any form of advertisement beyond the name of the constructor, the owner, or the pilot.

X. Each machine must carry the number allotted to it by the Clerks of the Course, who shall decide as to the form, size, and mode of display of the number.

XI. Under such regulations as they think proper, the Committee shall be at liberty, during the currency of the meeting, to admit the public for the inspection of the machines.

XII. Sheds for the housing of the machines entered will be provided to the competitors free of cost by the organisers of the meeting, but the organisers will not recognise any responsibility which such provision may entail.

XIII. Competitors shall be held responsible for the proper guarding of the sheds allotted to them, as also for any damage to their machines caused by themselves or by their servants or third party, and will relieve the meeting of all responsibility for damage by fire, storm, tempest, theft, accident, or other cause, either in the storage sheds or during the progress of the meeting.

XIV. Each competitor will further relieve the promoters of all responsibility for any accident which may occur to himself, to his machine, or to his passengers during the meeting, or for any accident or damage which he, his machine, passengers, or servants may cause to any other person or property.

XV. The responsibility for the conduct of the meeting and for the carrying out of these rules shall be vested in the Clerks of the Course, to whom all protests and complaints must in the first instance be made, and whose instructions must at all times be obeyed under penalty of exclusion.

XVI. Every protest shall be in writing, and shall be signed by a competitor or by his authorised agent, and must be lodged with the Secretary of the meeting together with the sum of £5, and if the protest be decided against the depositor, the deposit shall be forfeited to the meeting unless the Clerks of the Course, who have heard the case, decide that there was quite reasonable ground for the protest, complaint, or appeal.

XVII. All competitors by entering shall be deemed to have made themselves acquainted with these rules and regulations, as also with those governing the various events of the meeting, and with any further rules and regulations amending the same, or supplementary thereto, which may be issued later, and to have thereby undertaken to abide by the same.

XVIII. "Competitor" and "entrant" will be held to include the entrant or any pilot or mechanic or other person authorised by him to pilot or be in charge of, or in attendance on, the machine.



## FLYING AT BROOKLANDS.



"Flight" Copyright.

FLYING AT BROOKLANDS.—Mr. Claude Grahame-White, with Lady Abdy in the passenger's seat, just ready to start for his flight at Brooklands last Saturday, which unfortunately ended somewhat disastrously, but happily without any serious injury to either driver or passenger.

## Saturday Last at Brooklands.

A FEATURE of the race meeting held at Brooklands last Saturday was the auction sale held in the paddock, at which the rights to fly with Mr. Grahame-White as passengers were offered. Bidding was general up to 50 guineas, when a spirited contest ensued between Lady Abdy and Miss Pauline Chase. Eventually the hammer fell on Lady Abdy's offer of 120 guineas for the first trip. Several tickets for subsequent trips were disposed of at various prices. At twenty minutes to five Lady Abdy took her seat, and Mr. Claude Grahame-White started the engine. Difficulty was experienced in getting the machine to rise, owing apparently to motor trouble, and after 500 yards the aeroplane, which was only a few yards off the ground, fouled some bushes on the farther side of the River Wey, and came down with a crash, damaging the lower plane. Fortunately the aviator and his passenger suffered nothing worse than a few bruises. During the afternoon Mr. Graham Gilmour and Mr. Morison on Blériots, and Mr. Astley and Mr. Lane on Lane monoplanes made some very good flights, whilst two Roe triplanes were also out, although they did not get off the ground for any appreciable distance.

## General Activity at Brooklands.

FOLLOWING up some excellent performances at Brooklands the previous week, there was a considerable amount of flying there last week. On the 14th Mr. Morison, on his Blériot monoplane, and Mr. Barnes, on his Humber, were out, while on the following day Morison and Barnes made good flights, as also did Radley on his Blériot. When, during the evening, Grahame-White arrived from the Crystal Palace, Barnes created some sensation by flying over the Henry Farman, only missing touching it by a couple of feet or so. Later, Barnes made the two remaining flights for his pilot's certificate, and during the evening Astley and Lane were out on Lane monoplanes, Martin on the Trier and Martin monoplane, Radley and Morison on Blériots, while A. V. Roe on the new triplane, and some pupils with the new Neale monoplane, were running over the ground.

## Flying from the Crystal Palace to Brooklands.

HAVING arranged to fly at Brooklands on Saturday, Mr. Claude Grahame-White determined to fly there on his machine on Wednesday of last week. Leaving the Palace grounds at 7.18 p.m., Mr. Grahame-White steered due west until he reached Rayne's



"Flight" Copyright.

FLYING AT BROOKLANDS.—Mr. Grahame-White's machine, after the mishap at Brooklands, at the edge of the River Wey.

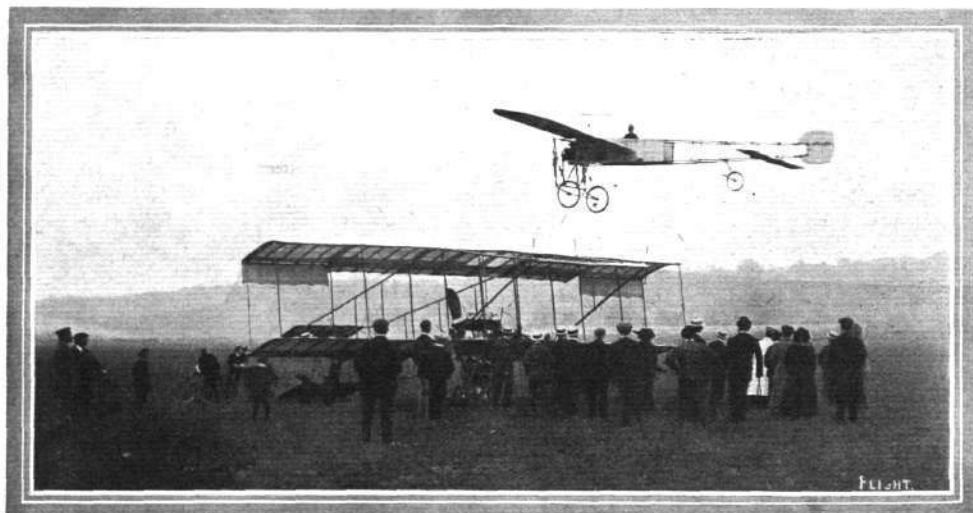


"Flight" Copyright.

**FLYING AT BROOKLANDS.**—Mr. Lane on his monoplane giving an exhibition flight on Saturday last. In the distance Mr. Morison on his machine can also be seen well up in the air.

Park, from whence he followed the London and South-Western main line to Weybridge. Owing to the mist Mr. Grahame-White went up to a height of 1,000 ft., and shaped his course by the sun as he was unable to see the familiar landmarks. He arrived at Brooklands, and after a circuit of the ground landed safely

at 7.43 p.m. Subsequently Mr. Grahame-White took up a passenger, and when outside the flying ground, engine troubles caused him to make a hasty descent. Before the trouble—a defective valve—could be repaired, the light failed, and Mr. Grahame-White was forced to leave the machine out in a field all night.



Mr. George Barnes, on a Humber monoplane, flying last week at Brooklands close over Mr. Claude Grahame-White's Henry Farman machine.

## MR. CECIL GRACE AT EASTCHURCH.

USING the new Short biplane (No. 29) which was illustrated on p. 425 of our issue of June 4th, Mr. Cecil Grace made a fine flight on Sunday, which was, however, surpassed by a still finer performance on Monday morning. On Sunday evening his essay was over Eastchurch and the surrounding country. On Monday morning he started off from Eastchurch in the direction of Leysdown, and finding his machine was working perfectly he swung round, passing over Eastchurch and Minster, crossed the hills, and was soon speeding over Sheerness. He passed over the battleship "Victorious" at a height of 500 ft., but then descended and circled

round not far above the wireless telegraph masts of the "Bulwark," the achievement being greeted by a chorus from the sirens of the various craft in the river. Leaving the "Bulwark," Mr. Grace again passed over the "Victorious," and after travelling a short distance up the river, turned for the home journey, passing over West Minster. He landed safely by his shed, after being up three quarters of an hour, and covering about 30 miles. At times the wind was blowing quite 35 miles an hour and gusty. It is gratifying to learn that Mr. Grace found the Short balancing system quite as effective as the Wright warping.

## NEW BRITISH ALTITUDE RECORDS.

MOUNTED on his Blériot machine, Mr. Armstrong Drexel on Saturday evening, at the New Forest Aviation School ground, succeeded in beating the British height record and taking it to 1,070 feet; but on Monday evening this was bettered by Mr. Cecil Grace at Eastchurch, on his new Short machine,

which was fitted with an aneroid barometer. Mr. Grace steadily rose to a height of 1,180 feet, and then, switching off the ignition, glided down to earth. The gliding angle of his machine is about 15°. There was a strong wind blowing, and at times the machine was quite stationary in the air.

## BRITISH NOTES OF THE WEEK.

### Ae.C.F. Honours the Hon. C. S. Rolls.

AT their meeting of the 9th June the Committee of the Aero Club de France decided to have a silver-gilt medal struck to commemorate the cross-Channel voyage of Mr. C. S. Rolls. This medal will have the date of the flight from Dover to Calais and back by aeroplane engraved on it.

### Teaching British Army Officers to Fly.

AT last an official start has been made with the instruction of British Army officers in the art of flying. On Monday evening the Hon. C. S. Rolls visited the balloon factory at Farnborough, and explained to a number of officers of the balloon companies of the Royal Engineers the working of his Short-Wright machine, which has been at the balloon factory for some time. The instruction was continued early on Tuesday morning, and although no attempt at flight was made the motors were started up and the method of handling the machine was demonstrated. A starting-rail has been laid down on Jersey Brow, and it was anticipated that practical flying would be commenced at the end of this week.

### Rapid Progress by Mr. Colmore.

ALTHOUGH he had never been in an aeroplane before, Mr. Colmore on Sunday, using one of the new Short machines, after twenty minutes' trial on the ground, commenced the trials for his pilot's certificate. He accomplished  $2\frac{1}{2}$  circles of about four miles circumference each, when he was forced to come down for an adjustment to his engine.

On Monday he made flights in very gusty winds, and handled his machine magnificently. His engine again failed him when at an altitude of 100 ft. However, he brought the machine down quite safely and without any damage. The rapidity with which Mr. Colmore has learnt to manipulate the machine constitutes a record.

### Mr. Gibbs in England.

AFTER his exciting experiences in Sunny Spain, Mr. Lancelot D. Gibbs has returned to Great Britain, where he hopes to compete at the important meetings during the summer. On Tuesday of last week Mr. Gibbs was flying his new Sommer biplane at Eastchurch, and although it was his first trial, a successful flight of about a mile was made. Subsequently the biplane was packed and sent to Brooklands, where Mr. Gibbs hoped to have flown on Saturday, but the machine was not quite ready.

Mr. Gibbs has taken business premises at 166, Piccadilly, and is opening an aviation school, where, in addition to the Sommer machine, a Henry Farman of the newest type will be available.

### "Gamma" Out Again.

HAVING had the damage sustained during the recent gale repaired, the army airship "Gamma" was out for a trial run on Saturday afternoon. Piloted by Lieut. Broke Smith, R.E., with Lieuts. Cammell and Reynolds and Mr. Green as crew, the dirigible manoeuvred successfully over Farnborough Common for forty minutes. The only incident was the stampeding of some horses belonging to the Oxford University Territorials, which were apparently frightened by the whirr of the motor as it passed over them.

### Admiralty and Bournemouth.

IN the House of Commons last week, Mr. McKenna, First Lord of the Admiralty, said the Admiralty had not found themselves able to assist the Bournemouth meeting by providing a destroyer to patrol the Solent during the principal International race. On being reminded of how they manage these things better in France, Mr. McKenna said the Admiralty saw no reason why they should do so here.

### Prizes at Blackpool.

IT is very probable that a prize of £500 will be given for a flight from the aerodrome at Blackpool to Southport and back again, and it is likely that if the Blackpool Tower Company are willing to repeat their offer of a £500 prize for a flight from the aerodrome round the tower and back again, the Lancashire Aero Club will be able to include this in their programme.

### A Meeting for Ireland.

UNDER the auspices of the Aero Club of Ireland, an endeavour is being made to organise a two days flying meeting to be held at Leopardstown, near Dublin, on August 29th and 30th, which is during the Horse Show week. To cover the expenses, which are estimated at £2,000, an appeal was issued on the 16th for a fund to guarantee this amount, and on the following day over half of it had been subscribed. Definite arrangements have been made with Mr. Claude Grahame-White, and it is hoped that Mr. Ferguson and others who have been making good progress lately will attend.

### Presentation to Hon. C. S. Rolls.

AN interesting little function took place at the Royal Aero Club on Tuesday afternoon, when the Hon. C. S. Rolls was presented with the Club's gold medal for his flight from Dover to Calais and back recently. Mr. Roger Wallace, chairman of the Club, presided, and among those present were Sir Charles D. Rose, Mr. John Dunville, Mr. Griffith Brewer, Mr. Mortimer Singer, and other prominent members interested in aviation. In making the presentation the chairman referred to Mr. Rolls' record as a motorist, and also his fine feat in flying over the sea at Nice. He said the flight from Dover to Calais and back would always be remembered because of its sporting nature, there being no prize to be won. M.M. Ruinat had, however, given a very handsome cup, which Mr. Wallace on behalf of the donors presented to Mr. Rolls as a souvenir. In replying to the toast of his health, the Hon. C. S. Rolls expressed his thanks to the Club, and said the machine rendered the feat comparatively simple. He was therefore bound to couple with the honour done to him the name of the Wright Brothers.

### Capt. Dawes at Dunstall Park.

WHILE flying at a greater height than he has hitherto attempted, Capt. Dawes met with a mishap on the 15th inst. at Dunstall Park. He had almost completed one circuit of the Park, and had just passed over some trees, when the machine swooped down and then shot up again, only to fall sideways from a height of 50 ft. The machine was considerably damaged, but Capt. Dawes escaped unhurt.

### Morals from the Worcester Accident.

IN view of our leader of last week on "Accidents and their Morals," it is satisfactory to observe the line that has been taken by the jury at the inquest which followed the unfortunate aeroplane accident at the recent Worcester Agricultural Show grounds. Their verdict expressed a strong sense of the inadequacy of the inquiries made by the Show authorities as to the course selected for the exhibition flights, and also as to the qualifications of the aviator, while they further censured both "Captain" Clayton and his assistant Beresford for attempting to fly in public when insufficiently expert in the art.

Incidentally, in the course of the proceedings, Captain Clayton admitted that the title of "Captain" was simply adopted for business purposes; and it also transpired that the amount of money which he stood to make by the demonstration depended upon whether a successful demonstration were made or not, and also upon whether or not any actual flights—as distinct from "jumps"—were effected. Another important feature of this inquest was that the Royal Aero Club were adequately represented at the special request of the coroner. Both Mr. John Dunville, as a member of the committee, and Mr. H. E. Perrin, the secretary, made it clear that although the Royal Aero Club had no desire to arrogate to themselves the complete control of such exhibitions, and although they did not suggest that an airman could only be properly qualified to fly when he became the possessor of one of their certificates, yet in the opinion of the Club the space available on this particular occasion at Worcester was inadequate to ensure safety, and the Club had no official knowledge of either of the men who were engaged. Everything, in fact, at this inquest has tended to uphold our contention of last week, that the organisers of all exhibition flights and flying meetings ought to insist upon every competitor holding some internationally recognised pilot's certificate before permitting him to perform.

### A Novel Model Competition.

A VERY original competition has been arranged by the Central Novelty Co., of Coventry, for the benefit of their customers. Eight classes have been arranged as follows:—1. For models illustrating original ideas. 2. Best scale model of existing type of machine. 3. Best flight by biplane. 4. Ditto by monoplane. 5. Models, except direct-lift machines, making best flight from ground. 6. Best direct-lift machine raising most weight in relation to size. 7. Best-designed and constructed model made by competitor under 15. 8. Best flight by model weighing less than 30 ozs. A coupon entitling the purchaser to enter one model will be sent to each purchaser of 5s. worth of goods. The competitions will be held on September 23rd and 24th, under the auspices of the Birmingham Aero Club, and full rules and conditions can be obtained from the Central Novelty Co.

### Prize Winning Model Aeroplanes.

IT is of importance to note that the sole selling rights of the Gordon-Jones dihedral biplane, which won the Birmingham Aero Club's challenge shield at the Botanical Gardens on the 10th inst., and of the G. P. Bragg Smith automatic aeroplane, winner of the

first prize in Class 2 on the same date, are in the hands of Messrs. A. W. Gamage, Ltd., of Holborn, E.C. Will the several inquirers please note accordingly.

## Trials with the Willows Airship.

Two trips were undertaken by Mr. E. T. Willows in his airship during last week-end. Accompanied by his cousin, Mr. Frank Garrett, Mr. Willows left his shed on the East Moors, Cardiff, at half-past four on Saturday afternoon, and flew round the Roath section of the city. As he encountered a rather strong head wind, Mr. Willows decided to come down, and with the assistance of some men of the Welsh Regiment the airship was anchored in the barrack square after a trip of 40 mins. duration. A fresh supply of hydrogen was sent for, but as this was late in arriving it was decided to stay all night. On the following morning the craft rose steadily to a height of about 400 ft., and after experiencing some difficulty in finding his way, owing to the dense fog, Mr. Willows landed safely by his shed on the East Moors.

## Zenith Carburettors in G.B.

WITH reference to the notice regarding the Zenith carburettor which appeared in our issue of June 11th, we understand that Messrs. Harris and Samuels have not now the sole rights for this country. In fact the "Ste. du Carburateur Zenith," of Lyons (France), has formed in this country an English concern for the manufacture and sale of their carburettors, with their own works in London, and Messrs. Fenestre, Cadisch and Co., have been appointed general managers. The carburettors can of course still be obtained through Messrs. Harris and Samuels.

## Cross-Channel Flight and Magneto.

DURING his cross-Channel flight recently, the Hon. C. S. Rolls used an Eisemann magneto, and in a letter to the Eisemann Magneto Co. he writes: "The Eisemann ignition worked perfectly well during the Channel flight, and I had not a single miss-fire on either journey."

The firm do not claim that the Eisemann magneto not miss-firing is a record for magneto work, but they do maintain that the

Hon. C. S. Rolls' choice of an Eisemann magneto for his Channel flight was most justified by the results.

## Motor Garage at Dunstall Park.

WE are informed by Heath's Garage, Ltd., of John Bright Street, Birmingham, that they are conducting the official garage inside the aviation grounds at the Dunstall Park Racecourse, Wolverhampton, during the course of the aviation meetings from June 25th to July 1st. They will there have garage accommodation for the cars, motor cycles, and cycles of visitors to the aviation meetings.

## Aviation in the North of England.

A NEW aviation company and club has just been formed in the North of England, with a capital of £10,000, with power to increase to £20,000. We understand that 5,000 shares have been taken up at par by the directors, who are professional engineers associated with aeronautics. We are informed that a very fine flying ground has been secured, extending over three miles in a straight line by about half a mile wide, with no obstructions or ditches, within about twelve miles of Liverpool, and one and a quarter miles from a station at which trains to and from Liverpool and Southport stop about every quarter of an hour. A hangar has been erected, and there is plenty of land to build a large number more. About half an acre of works is being put up, which will be stocked with the best machinery for making aeroplanes and aeroplane engines. The directors have secured the licence for a patent for a petrol engine which is stated to be of less than 1 lb. weight per horse power, and with only three moving parts, and also of a patent self-balancing mono or biplane. An aviation club has been started in connection with the company, with a subscription of £2 2s. per annum. Members have the free entry to the course, the right of putting up private hangars on the company's ground at a ground rent of £10 10s. a year, notice of all competitions, prizes, &c., and the use of the club's gliders and aeroplane at club rates, with free tuition from the club's pilot. The holding of 500 £1 shares in the company will entitle the holder for the time being to be a member of the club without paying a subscription.

The offices of the company and club are at 5, South Crescent Chambers, Liverpool.

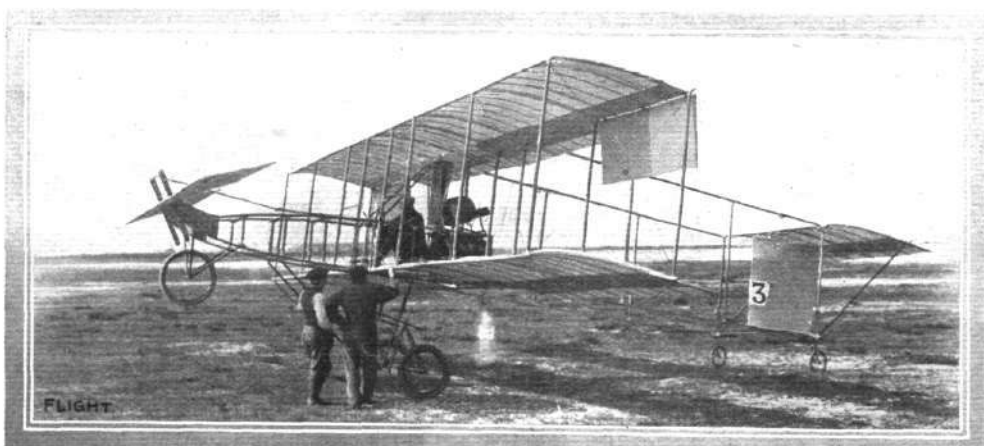
# CONTINENTAL FLIGHT MEETINGS.

## Flying Week at Rouen.

QUITE one of the most successful meetings so far held, opened on Sunday last at Rouen, and during the day no less than a dozen different aviators being seen in the air, while at one time there were eight machines flitting about in the "central blue" simultaneously. An interesting contest ensued between Capt. Dickson and Cattaneo for the longest distance flown, which ended in favour of the Italian, who during the day covered 243 kiloms. on his Blériot, 3 kiloms. better than Capt. Dickson's cumulative record. The other totals for the day were Audemars (Demoiselle), 94 kiloms.; Bruneau

de Laborie (H. Farman), 57 kiloms.; Hanriot (Hanriot), 42 kiloms.; Morane (Blériot), 36 kiloms.; Van den Born (H. Farman), 21 kiloms.; Bathiat (Breguet), 21 kiloms.; Dufour (Voisin), 12 kiloms.; Metrot (Voisin), 6 kiloms.; Christiaens (H. Farman), 3 kiloms.; and Mme. de la Roche, who only covered a very short distance.

The longest single flight was made by Capt. Dickson, who covered 140 kiloms. in 2 hrs. 27 mins., while Cattaneo was second with 80 kiloms. in 1 hr. 10 mins. Morane won the passenger prize with a trip of 18 kiloms. in as many minutes, while later in the day he created a little sensation by making an excursion outside the



THE LATEST VOISIN MACHINE AS USED BY METROT AT THE ROUEN MEETING.—By comparison with our photographs on page 293, it will be noticed that two ailerons have been added to the top main plane, and the arrangement of the tail has been altered considerably.



flying ground, passing round the Cathedral. During lunch time Van den Born met with an accident, and it is doubtful if he will be able to fly again during the meeting. In the competition for gliding flight Bathiat was best, his machine covering 426 metres, while Capt. Dickson was second with 204 metres.

There was a good deal of wind on Monday, but in spite of it a dozen machines were in the air, for although Van den Born, Bathiat and Metrot did not venture out, Verstraten (on a Sommer), Latham (on an Antoinette), and Dubonnet (on a Telier) took their places. During the day Capt. Dickson traversed 66 kiloms., Cattaneo 54 kiloms., and Dubonnet and Morane 42 kiloms. each.

On Tuesday Capt. Dickson established a long lead over his rivals. His total distance during the day of 170 kiloms. made his record for the three days 460 kiloms., while his nearest opponent, Cattaneo, was 40 kiloms. behind this figure. During Tuesday Cattaneo flew 120 kiloms. and Dubonnet 55 kiloms. The Breguet machine, which had been giving a good account of itself, came to grief through being caught by a gust of wind, but the pilot escaped unhurt.

### The Juvisy Meeting.

ON Tuesday, Wednesday, and Thursday of last week, the concluding three days of the flying week at Juvisy, the wind was very trying, and Audemars on the Demoiselle and Didier on his Henry Farman were the only flyers to venture out. On the 14th, Audemars was up for 15 kiloms., and on the following day for 27 kiloms., while Didier contented himself with trips of 2 and 3 kiloms. respectively. Competing for the starting prize Audemars rose on Wednesday in 9 secs., while Didier left the ground in 11½ secs. On the 16th, the wind was really too strong for flying, but as the crowd showed signs of irritation Audemars was prevailed upon to go round the course three times.

### Crau Flying Week.

LAST week we referred to the flying at Crau on the first days of the Crau week. On Thursday the noteworthy performances were those of Cheuret and Daniel Kinet, each of whom took their wives for cross-country trips. Cheuret only went a short way, but Kinet flew to Salon and back without incident. Dufour (on his Blériot), and Kimmerlin (on a Voisin) were also flying, the latter capsizing his machine. He was unable to fly on the following day, but the other three were up during the evening. During the course of his trip to Salon Kinet claims that he beat the world's height record for a passenger flight by going up to 500 metres.

### Budapest Flying Meeting.

THE following are the official awards in connection with the Budapest International Flying Meeting, which came to a conclusion last week:—

#### Prize for Longest Flight Without Landing.

1. Wagner (Hanriot), 2h. 3m. 46s. ...	£	400
2. Illner (Etrich), 1h. 45m. 40s. ...	...	400
3. N. Kinet (H. Farman), 1h. 44m. 50s. ...	...	80
4. Wachalowski (H. Farman), 1h. 13m. 29s. ...	...	24

#### Prize for Longest Distance Without Landing.

1. Wagner (Hanriot), 137 kiloms. 385 metres ...	400
2. N. Kinet (H. Farman), 103 kiloms. 670 metres ...	200
3. Wachalowski (H. Farman), 75 kiloms. 40 metres ...	280
4. Illner (Etrich), 63 kiloms., 80 metres ...	—

#### Height Prize.

1. Paulhan (H. Farman), 1,060 metres ...	400
2. Latham (Antoinette), 858 metres ...	160
3. Illner (Etrich), 449 metres ...	280
4. Chavez (H. Farman), 442 metres ...	24

#### Speed Prize (10 kiloms.).

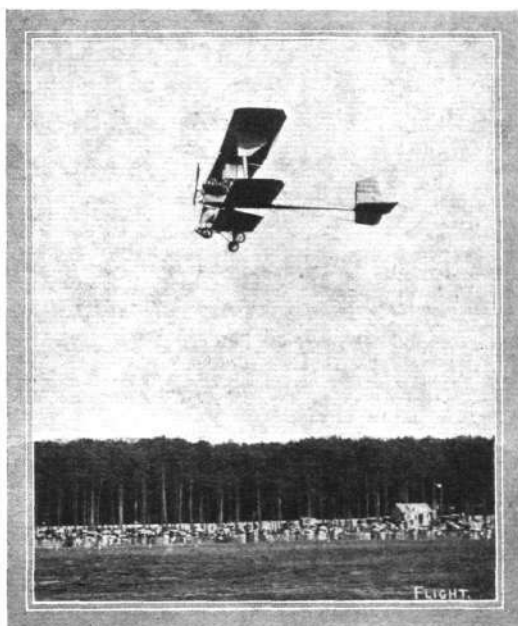
1. Latham (Antoinette), 76·77 kiloms. per hour ...	400
2. Jullerot (H. Farman), 73·41 kiloms. per hour ...	200
3. Paulhan (H. Farman), 71·20 kiloms. per hour ...	80
4. Wagner (Hanriot), 70·59 kiloms. per hour ...	24

#### Slow-Speed Prize (10 kiloms.).

1. A. Frey (H. Farman), 11 mins. 50 secs. ...	200
2. Amerigo (Sommer), 11 mins. 28 secs. ...	80
3. Wachalowski (H. Farman), 11 mins. 27 secs. ...	160

#### Passenger Prize.

1. Engelhardt (Wright), 1 hr. 5 mins. ...	200
2. N. Kinet (H. Farman), 49 mins. 47 secs. ...	80
3. Paulhan (H. Farman), 44 mins. 33 secs. ...	40



Bathiat flying on the new Breguet biplane at Rouen Meeting.

#### Starting Prize.

1. Paulhan (H. Farman), 11·5 metres ...	120
2. Efimoff (H. Farman), 15 metres ...	80
3. Wachalowski (H. Farman), 46 metres ...	80

#### Beginners' Prize.

1. Wagner (Hanriot), 2h. 3m. 46s. ...	200
2. Illner (Etrich), 1h. 45m. 40s. ...	240
3. N. Kinet (H. Farman), 1h. 44m. 40s. ...	40

#### Prize for New Makers.

1. Illner (Etrich), 1h. 45m. 40s. ...	280
2. Pischoff (Pischoff), 48m. 25s. ...	80
3. Szekely (Szekely), 6m. 8s. ...	40

#### Prizes for Hungarian Aviators.

1. Horvath, 8 mins. ...	280
2. Szekely, 6 mins. 8 secs. ...	120
3. Adorian, 5 mins. ...	60

#### Quality Prize.

1. Wagner (Hanriot), 106 points ...	200
2. Latham (Antoinette), 84 points ...	80
3. N. Kinet (H. Farman), 77 points ...	40

#### Consolation Prizes.

1. Mme. de Laroche (Voisin) ...	200
2. A. Frey (H. Farman) ...	80
3. Belovucic (Voisin) ...	40

#### Prize for Total Time.

1. N. Kinet (H. Farman, motor Gnome, Chauvière propeller), 12h. 15m. 28s. ...	400
2. Wagner (Hanriot, motor Clerget, Chauvière propeller), 11h. 10m. 54s. ...	200
3. Efimoff (H. Farman, motor Gnome, Chauvière propeller), 4h. 37m. 43s. ...	80
4. Latham (Antoinette, motor Antoinette), 4h. 31m. 32s. ...	...
5. Paulhan (H. Farman, motor Gnome, Chauvière propeller), 3h. 38m. 7s. ...	...
6. Frey (H. Farman, motor E.N.V., Chauvière propeller), 3h. 23m. 30s. ...	...
7. Illner (Etrich, motor Clerget, Chauvière propeller), 3h. 22m. 21s. ...	...
8. Engelhardt (Wright), 3h. 1m. 17s. ...	...
9. Pischoff (Pischoff, motor E.N.V.), 2h. 26m. 8s. ...	...
10. Mme. de Laroche (Voisin, motor E.N.V.), 1h. 50m. 20s. ...	...

# FOREIGN AVIATION AND AIRSHIP NEWS.

## French Trade Associations and the C.A.M.

MORE trouble is brewing for the C.A.M., which was formed with such a flourish of trumpets about a couple of years back with the idea of ruling aviation throughout the world, by coercing the Aero Club of France into submission to its will. It has not only failed in its wide scope, but apparently its powers are practically gone, even in France, and the latest phase is the resignation from the C.A.M. ranks of the *Chambre Syndicale des Industries Aeronautiques*, which body was last week amalgamated with the *Association des Industriels de la Locomotion Aerienne*, M. Robert Esnault-Pelterie being president of the unified bodies. It will be remembered it was the C.A.M. and its associates which unsuccessfully tried last autumn to leave Great Britain entirely out in the cold in regard to international aviation meetings for 1910.

## Aeronautique Club de France Meetings Proclaimed.

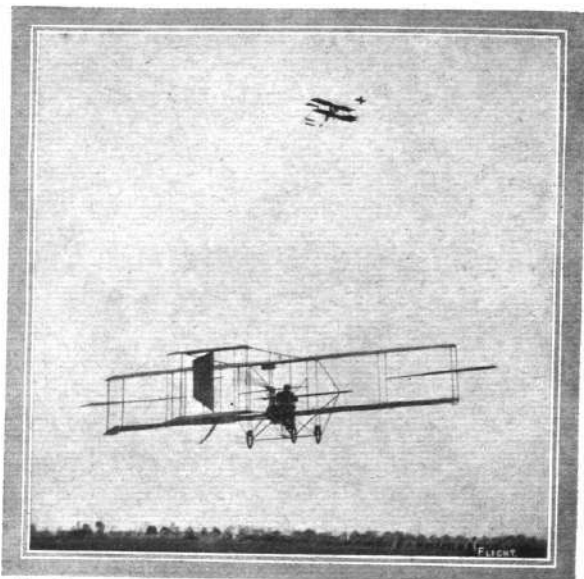
OFFICIAL notice has been issued by the Aero Club of France that in consequence of the Aeronautique Club de France refusing to place its race meeting of May 15th under the regulations of the F.A.I., that club is disqualified from holding meetings for one year. This means that any aviators, officials, timekeepers, &c., who take part in or assist in any meetings arranged by the Aeronautique Club will be disqualified from taking part in any authorised meetings throughout the world. Those interested should therefore make careful note of this edict.

## Prizes for French Military Officers.

M. LAZARE WEILLER, who it will be remembered was largely instrumental in introducing the Wright Bros. to France, has offered a sum of 25,000 francs to General Brun, the French Minister of War, to be utilised for prizes to be given to military aviators in a despatch-carrying competition which it is suggested should be from Chalons to Verdun and back, the distance being 75 kiloms. each way. The conditions will be drawn up later, but two provisos will be that the officers must be on the active list and make the qualifying flights in uniform and be accompanied by another officer.

## French Officers Honoured.

ON Thursday of last week the Aero Club of France gave a banquet in honour of the French military officers who are studying aviation and acrostation, and the banquet was graced with the presence of the Minister and Under-Secretary for War, General



Mr. Charles K. Hamilton at Hempstead (U.S.A.) executing one of his sensational "trick" flights. The lower machine is Captain Baldwin's biplane.

Brun and M. Albert Saurraut. It was announced that these two Ministers had been made honorary members of the club, and it was also intimated that the gold medal of the club will be given to Lieut. Fequent and Capt. Marconnet for their cross-country trip.

For their services in connection with aviation at Chalons Camp Lieut. Hugoni has been promoted to Captain, and Capt. Sacornes has been made a Chevalier of the Legion of Honour.

## Lieut. Biériot Flies from Issy to Vincennes.

HAVING commenced his thirteen days training as a Lieutenant of the reserve, M. Louis Biériot was ordered by Lieut.-Col. Estienne to fly from Issy to Vincennes, and place himself at the disposal of the commanding officer. Mounting one of his two-seated machines fitted with a Gnome engine, he left Issy at 4.15 a.m. and arrived at Vincennes in about twenty minutes, receiving a great ovation there from his brother officers on the success of his novel exploit.

## Lieut. Fequent Flies to Issy.

ON his Henry Farman machine, Lieut. Fequent duplicated M. Biériot's trip, although in the reverse direction, by flying from Vincennes to Issy. Leaving the former place at ten minutes to six, he landed safely at Issy a quarter of an hour later.

## Flying from Satory to Issy.

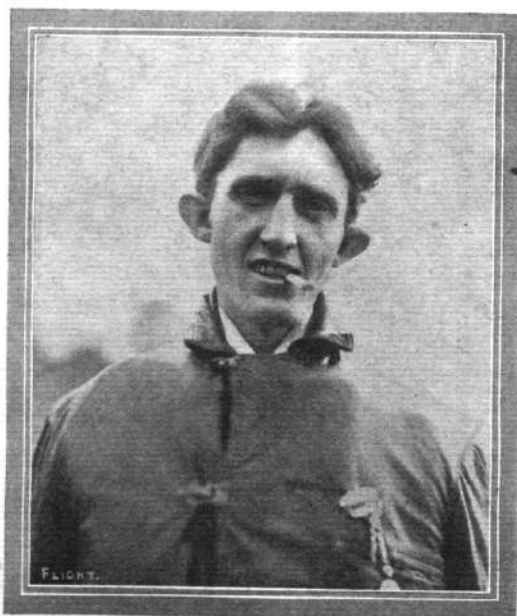
CAPT. ETEVE, who, by the way, is the only French officer to possess all three of the Ae.C.F. pilot certificates, for balloons, dirigibles, and aeroplanes, flew on the 15th inst. from Satory to Issy. His machine is a Wright biplane which has been modified by himself, a tail being now fitted as well as wheels to render the starting rail unnecessary. Leaving Satory at 20 minutes past 5 he reached Issy at a quarter to six, having traversed the 19 kiloms. in 25 minutes.

## Capt. Eteve has a Tumble.

WHILE practising on his Wright machine at Issy on Friday, Capt. Eteve fell from a height of 20 metres. He had previously had a slight mishap, but the result was not serious, only a wheel being buckled. He flew for 12 minutes on the following day.

## Doings at Mourmelon.

The Antoinette School,—Labouchere has made several good flights during the past week, and on the 16th, when some Japanese officers visited Mourmelon, he took one or two of them for trips. On the previous day he flew over Vadenay against a wind blowing



A snap of Chas. K. Hamilton just before his flight from New York to Philadelphia.

between 40 and 50 kiloms. an hour, and he afterwards planed down from a height of 300 metres. On Sunday he, as well as Wachter, were flying, and several times planed down from heights of 400 metres. The pupils Gobe, Thomas and Lafond have each made good progress, and flights of a quarter of an hour's duration are quite usual with them.

**The Farman School.**—On the 16th inst. Mr. Henry Farman took one of the Japanese officers for a short trip, while the pupils, Weyman, Fischer, and Loraine, each made trial flights. The latter have been continuing their training every day, and on Saturday Weyman was flying over the surrounding country with a passenger.

**The Voisin School.**—A distinguished pupil at the present time at the Voisin school is Nazzaro, the famous racing car driver, and at his *début* on Monday he made some good short flights. On the same day De Ridder flew for an hour and five minutes, and later took up some passengers. Niel and Ravetto were also out, circling round the ground several times, and in the morning, in spite of a strong wind, De Lepage was up for 50 mins.

**The Sommer School.**—On Sunday the pupils, Beauprès and Caumont, each covered three circuits. Molla at his fourth trial kept up for 20 minutes, and Dafflers also made a flight of similar duration accompanied by his wife. Maasdyk, at his second lesson, flew six circuits.

#### Practice at Issy.

On Sunday, Maurice Clement was trying a new monoplane of original design, while Aubrun on his Blériot was flying at a good height. Several other Blériot pupils have been out during the week, and one of them, De Cederström, of Stockholm, travelled over Auteuil and Billancourt on Monday. Garrof on a Demoiselle and Dariofi on a Saulnier are others who have been doing well during the past two or three days.

#### Harding at Amberieu.

MR. HARDING has been making good progress with his J.A.P. monoplane at Amberieu recently, and on Saturday he twice described a figure eight over the flying ground.

#### Trials at Juvisy.

A LARGE crowd went out to Juvisy on Sunday afternoon and witnessed some good flying there. Capt. Burgeat, on his Antoinette, made a splendid flight of four circuits of the course, and Champel on his Voisin, Ladougue on the Goupy, and Bussion on a Blériot also made good trials. Later Champel took up a lady passenger, while Lesire on a Voisin left the grounds, and went for an excursion over Lavigny, an exploit which was duplicated by Champel on the following day.

#### Aubrun Flies Across Country.

RISEING from the Issy parade ground on Saturday evening, Aubrun, on his Blériot, which is fitted with a Clement-Bayard motor, passed over the Seine and flew above Auteuil. He then returned to Issy and landed after a flight of 35 minutes, as certified by the officials of the Aero Club of France.

#### An Aerial Grand Prix.

FOR the aerial race which is to take place between August 7th and 17th for the 100,000 francs prize offered by the *Matin*, the course selected is Troyes, Nancy, Mézières-Charleville, Douai, Amiens, and Paris. It is probable that the starting place will be the polygon at the Vincennes military barracks.

#### Official Visit to the French Wright Factory.

ON Saturday last the French Minister of Works, M. Viviani, paid a visit to the works of the Compagnie Générale de Navigation Aérienne, at Villacoublay, where the French Wright machines are constructed. Count Lambert, M. Rene Gasnier, and Lieuts. Maillot and Chevreau each gave exhibition flights, and Count Lambert carried M. Viviani for a short trip.

#### Turkish Mission at Issy.

THE mission from the Ottoman Government, which is now touring France, visited Issy on Sunday last. Their first experience on arriving there was to witness the start of eleven balloons. After that a visit was paid to the shed in which the "Ville de Bruxelles" reposes, and the various parts of this dirigible were inspected and explained. On leaving the shed the visitors saw the "Liberté" being taken out for a

trial spin, and she was manœuvred for some time over the camp. To complete the entertainment, Leblanc, on the Blériot, and Lieut. Fequent, on his Henry Farman biplane, gave a series of exhibition flights, the latter carrying several passengers, including General Nechad Pasha, Governor of Constantinople. On landing from this last-mentioned trip a slight mishap occurred, but without any serious consequences.

#### Aeroplane v. Train.

AFTER flying over the camp at Mourmelon for some time on his Blériot machine, Ehrmann flew over to the station at Buoy just as a train was leaving. He quickly got in front of it, and after leading it for four kiloms. turned and went back to the camp.

#### Flying over Copenhagen Sound.

ON the 14th inst., Nervoe on his Voisin and Count Maltke on an Ellehammer monoplane, arranged to attempt to fly across Copenhagen Sound. Both aviators started their motors at the same time, but Nervoe was the first to get away. He then decided to land on the sea-shore and make some trials before attempting the transmarine trip. Count Maltke rose a few minutes after Nervoe, but his machine fell a few seconds after, and the aviator sustained severe bruises. By this time so strong a wind had risen that it was decided to postpone operations for the day.

#### Herr Robl Killed.

IT is comparatively speaking only a few days ago since Thaddeus Robl, after winning success upon success in cycle races, decided to turn his attention to flying, and learnt to fly a Farman biplane. He rapidly attained proficiency, and arranged to fly at a meeting arranged to take place at Stettin. On Saturday evening a squally wind was blowing, and none of the aviators deemed it advisable to go up. At this the crowd showed signs of anger, and, in response to calls for him, Robl decided to attempt a flight. He reached a height of about 200 ft., and was then descending, when the machine was apparently caught by a squall and capsized. It fell to the ground and Robl was buried beneath the wreckage. On being extricated it was found that his neck was broken, and he expired in a few minutes without regaining consciousness.

#### High Flying at Indianapolis.

ON Thursday of last week Mr. Brookins, at Indianapolis, succeeded in beating his previous height record of 4,384 feet by rising to 4,803 feet (1,463 metres) on his Wright machine. These figures have been officially confirmed and therefore now constitute the world's record.



**A VICTIM OF MOB CLAMOUR.**—Herr Thaddeus Robl and his wife. Herr Robl met his death on Saturday last at Stettin, when, to appease the unreasonable clamour of the public who had assembled to witness some flying exhibitions, he ascended in very treacherous winds. This incident should be a warning to the British public at the coming exhibitions and meetings, that at the present stage of aviation it is hardly up to the standard of their sporting instincts to insist upon the flying men risking death merely to gratify their pleasure at the moment.

# The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

## Committee Meeting.

A MEETING of the Committee was held on Tuesday, the 21st inst., when there were present:—Mr. R. W. Wallace, K.C., in the chair, Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Col. J. E. Capper, C.B., R.E., Mr. John Dunville, Mr. V. Ker-Seymer, Mr. C. F. Pollock, Hon. C. S. Rolls, Sir Charles D. Rose, Bart., Mr. J. Lyons Sampson, Mr. A. M. Singer, Mr. Stanley Spooner, and Harold E. Perrin, secretary.

**New Members.**—The following new members were elected:—  
Arthur Stanley Betts Chapman. John P. Grenfell.  
Col. Alexander Finlay, D.L., Lieut.-Col. H. de T. Phillips,  
J.P. R.G.A.  
Mrs. Alexander Finlay. Dario Raoul Resta.  
Miss Finlay. A. Huntley Walker.  
J. H. Gladding.

**Lanark International Aviation Meeting.**—The provisional programme for the Lanark International Aviation Meeting was approved, particulars of which appear elsewhere. The following timekeepers were appointed:—A. V. Ebbelwhite, G. P. Glazebrook, A. G. Rennie.

**Aviators' Certificates.**—The following aviators' certificates were granted:—

- No. 14. J. Armstrong Drexel.
- No. 15. G. C. Colmore.
- No. 16. G. A. Barnes.

**Aviation Meetings.**—Applications for National Aviation Meetings were considered:—

Doncaster...	...	...	July 20th-24th
Folkestone...	...	...	September 1st-3rd
Durham...	...	...	September 8th-10th

These dates were provisionally granted, subject to arrangements being made satisfactory to the Committee of the Royal Aero Club. Mr. Ernest C. Bucknall and the Secretary were appointed to inspect the proposed flying courses at an early date.

## Bournemouth International Aviation Meeting.

The International aviation meeting commences on Monday the 11th July, 1910, finishing on the 16th.

**Hotel Accommodation.**—Owing to the large number of applications for accommodation at the Hotel Burlington, only a few rooms are now available, and members desirous of securing same should make early application to the Secretary of the Club.

## Aeroplane v. Motor Boat.

The Motor Yacht Club recently challenged the Royal Aero Club for a race between a motor boat and an aeroplane, the event to take place during the aviation week at Bournemouth. The challenge has been accepted, and various conditions for the contest have been discussed. It has been decided that two competitors shall be selected to represent each club, and the course will be from Boscombe Pier to a mark off the Old Harry Rocks and back. Members have quickly signified their appreciation of this novel and sporting contest, the committee having already received applications for selection from the following well-known aviators:—The Hon. C. S. Rolls, Cecil Grace, C. Grahame-White, A. Rawlinson, S. F. Cody, L. D. L. Gibbs, and J. T. C. Moore-Brabazon.

It is hoped that the race will take place on either Friday, July 15th, or Saturday, July 16th, at about 7 p.m.

## Rheims Aviation Meeting.

The Rheims aviation meeting will be held from July 3rd to 10th, and a very large entry has been received, including all the principal aviators.

## Balloon Race at Hurlingham.

The next balloon race will take place at the Hurlingham Club on Saturday, July 2nd, at 3 o'clock. It will be a point to point race for a cup presented by Mr. A. Mortimer Singer. Entries will close on Wednesday, June 29th, at 5 p.m. Entrance fee, 10s.

The rules governing the race can be obtained from the Secretary. Members of the Royal Aero Club will be admitted to the Hurlingham Club free, on presentation of their Royal Aero Club membership cards.

The Club balloon, "Aero Club IV," will follow the race. Members wishing to make the ascent are requested to notify the Secretary at once. The fee will be £5 per person, and the three seats available will be allotted in order of application.

## Sailor Aeronaut Race.

Several members accepted the hospitality of the Motor Yacht Club on Saturday last, and competed in a sailing race for the cup presented by the Hon. Mrs. Assheton Harbord.

Result—1. Mr. Atkinson; 2. Mr. T. Sopwith; 3. Mr. Tom Thornycroft.

## Baron de Forest £4,000 Prize.

### Under the Rules of the International Aeronautical Federation.

Baron de Forest has offered through the Royal Aero Club of the United Kingdom a prize of £4,000, to be competed for under the following conditions:—

1. The winner to be the aviator who, from a point fixed upon by himself, and approved by the Royal Aero Club, flies the longest distance from England to the Continent, the distance to be measured from the starting point to the point of descent.
2. No part of the machine shall touch land or water during the flight.
3. The competition to be open from January 1st, 1910, until December 31st, 1910.
4. The flight must be accomplished by means of a machine of the type designated "heavier-than-air."
5. The complete machine, i.e., the motor and all its parts, the planes, propellers, and all other parts thereof, must have been entirely constructed within the confines of the British Empire, but this provision shall not be held to apply to raw material.
6. The entrant, who must be the person operating the machine, must be a British subject, and domiciled in Great Britain or the Colonies or dependencies thereof for a period of at least two years prior to January 1st, 1910.
7. The flight must be commenced in the presence of official observers appointed by the Royal Aero Club.
8. Formal notice of entry must be sent to the Secretary, Royal Aero Club, 166, Piccadilly, W., not less than one month before the proposed flight, and the entrant must comply with all the regulations as to notices, observations, and other details issued from time to time by the Royal Aero Club.
9. In every case, notification of the first attempt to be made, under these conditions, must reach the Royal Aero Club, 166, Piccadilly, W., not less than forty-eight hours prior to such attempt, and in the case of all subsequent attempts, not less than twenty-four hours' notification must be given.
10. The entrant must supply satisfactory evidence of previous flights before making any attempt under these conditions.
11. The competitor must supply satisfactory evidence of the exact point of descent, signed by two witnesses, whose signatures must be attested.
12. In accordance with the rules of the International Aeronautical Federation, the entrant must be a member of, or obtain a permit from, the Royal Aero Club.
13. Should any questions arise at any time after the date of entry as to whether a competitor has properly fulfilled the above conditions, or should any other question arise in relation to them, the decision of the Committee of the Royal Aero Club shall be final and without appeal.
14. Each competitor agrees to waive all claim for injury either to himself or his apparatus, and agrees to assume all liabilities for damage to third parties or their property, and to indemnify the Royal Aero Club against any such claims.

## Claude Grahame-White Testimonial Fund.

Donations received up to Tuesday, June 21st, 1910.

Amount previously acknowledged	£1,793 10 5
George W. Ayres, per Charles C. Newton	£5;
George W. Ayres, £1 1s.; A. H. Bell, £1 1s.;	
J. W. T. Scott, £1 1s.; Paul Strauss, £1 1s.;	
F. W. Sharp, £1 1s.; J. B. S., 5s.; E. F. C.,	
2s. 6d.; H. E. C., 2s. 6d.;	10 15 0
The Official Staff, Lichfield Brewery Co., Ltd., per	
John Russell	1 1 0
	£1,805 6 5

166, Piccadilly.

HAROLD E. PERRIN,  
Secretary.



## PROGRESS OF FLIGHT ABOUT THE COUNTRY.

(NOTE.—Addresses, temporary or permanent, follow in each case the names of the clubs, where communications of our readers can be addressed direct to the Secretary. We would ask Club Secretaries in future to see that the notes regarding their Clubs reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.)

### Aeroplane Building and Flying Society.

ON Wednesday evening, 15th inst., an enthusiastic meeting of the Society was held, when the general rules were considered and passed. Some sixteen new men signified their intention of joining the Society, which promises to develop very quickly. The idea of the Society is to use the funds to procure a fully equipped workshop, with power machinery, where the members may mutually assist in developing each other's ideas. It was suggested that the members who act as workmen should have their work properly valued and credited to them on the Society's books, the amount so credited to be allowed to go towards the making of machines to their own design or in any other way they may desire. A design for a very simple type of monoplane was laid before the Society as an initial undertaking. Suggestions as to flying grounds and other details were received and discussed. It was decided to hold the next meeting on Wednesday, 22nd inst., at 8.30. All who are interested in aviation are invited to attend the meetings of this Society, and communications should be addressed to H. B. Myers, 22, Park Road, West Dulwich, S.E.

### Aviation Association of Ireland (HOTEL METROPOLE, DUBLIN).

ON Tuesday, the 14th inst., a meeting was held in the Royal College of Science, with Mr. J. B. Dunlop, president, in the chair. The secretary announced that he was sorry to have to inform the meeting that, owing to a sudden illness, Mr. H. G. Ferguson, who was to have read a paper, had not been able to leave Belfast. Having only heard from Mr. Ferguson that morning, it had been impossible to put off the meeting. The secretary therefore hoped that every consideration would be extended to Mr. F. F. C. Trench, who had been kind enough to write out a paper, based on a synopsis supplied by Mr. Ferguson, and who would take the latter's place. Mr. Trench was then called upon to read his paper. He dealt with the various types of construction employed on the leading machines of to-day, also with the different combinations of engine and propeller, and explained why it was that two-bladed propellers were so much used and found so good.

Dr. Lilly then proposed a vote of thanks to Mr. Trench for reading such an excellent paper at such short notice. He said that Mr. Ferguson's paper would have been of especial interest, as he was one of the very few in Ireland who had spent time on practical flying. He said that steel should be more extensively used, and would be so in the near future.

Mr. Porte seconded, and it was passed unanimously.

Mr. Percy said that he had seen Mr. Ferguson fly, and thought that he was a real good flyer, and should be encouraged. He said that were it not for the chairman's practical development of the pneumatic tyre there would be no aeroplanes to-day, as it would be hard to get along without the petrol engine, which had been developed through motoring.

Mr. Percy also mentioned the proposed meeting at Leopardstown, which is referred to elsewhere.

### Bristol and West of England Ae.C. (STAR LIFE BLDGS., BRISTOL).

THE committee of the club have now completed arrangements for accommodation for the members and their friends at Bournemouth during the aviation week from July 11th to 16th inclusive. Two farm houses have been taken, which adjoin the flying ground, and as sleeping accommodation can only be provided for eighteen, early application should be made, which will be dealt with in rotation.

Further arrangements for the club's welfare are now nearly completed, and the inaugural dinner of the members and their friends will be held at the Clifton Down Hotel on Thursday next, June 30th, at 7.30 p.m., under the Presidency of Sir George White, Bart. Tickets 7s. 6d. each.

Several gentlemen prominent in aviation circles have been invited to this dinner, including the Hon. C. S. Rolls, Mr. C. Grahame-White, and others, whilst well-known artistes have been engaged for the musical programme.

As already announced, the headquarters of the club are at the Clifton Down Hotel, where a large room has been redecorated and refurbished for the exclusive use of the members. This room will be formally opened on the occasion of the dinner. All papers and periodicals pertaining to aviation will be provided, as well as the best books that have recently been published on the subject.

Good progress is being made with the glider, which is being built and presented to the club by the British and Colonial Aeroplane Co., Ltd.

This glider will be of the biplane type, fitted with a front elevator and a monoplane tail at the rear. The over-all width of the planes will be 9'6 metres, and the chord of the plane 1'5 metres.

The glider is being so constructed that the ends of the planes will be detachable; this will facilitate any repairs that may be necessary, and it will not take so much room to store. A seat will also be fitted on the glider for the use of the operator.

In all probability it will be completed in about three weeks time, and it is hoped that a suitable ground will soon be procured where the members will be able to practise on the machine, and this is being eagerly anticipated by many.

The club has been recently affiliated to the Royal Aero Club, and the membership is steadily increasing. The annual subscription is two guineas, and the committee have decided to admit members without an entrance fee until the last day of the Bournemouth meeting, July 16th.

### Hastings and St. Leonards Aero and Scientific Model Assoc. (60, CAMBRIDGE ROAD, HASTINGS).

A PRIVATE exhibition of finished models will be held on Thursday next, 30th inst., when members may bring as many friends as they like. It is also hoped to get a show of material used in the construction of models, in order that new members may know what to use, and also for members generally to compare various materials.

The first of a series of outings took place on Saturday to Camber to see Mr. Ogilvie's Short-Wright machine. Mr. Ogilvie very kindly welcomed the party, and explained the working of the various controls. The members were fortunate enough to witness the first trials of the new British engine he has had fitted to the machine. They were greatly interested in the full-sized glider, and the various wind gauges, &c., which are erected on the ground.

Another shed was also visited containing a machine of the Voisin type with an all-steel frame, and a curious arrangement of two propellers on one shaft, one a four-bladed and the other a two.

Arrangements are being made for another visit to suit those members and friends who could not go last Saturday. This second trip will be on a Wednesday. Any member wishing to go is requested to write to the Secretary.

Dealers are asked to send their catalogues, &c., to the Secretary for club use.

It has been decided to leave the question of affiliation to the Motor Union over for a time.

### Model Aero Club in Leamington.

THOSE interested in the formation of a model aero club for residents in the Leamington district are requested to communicate with Mr. C. Fairies, 8, Camberwell Terrace, Leamington.

### Sheffield and District Aero Club (36, COLVER ROAD).

A MEETING was held on the 15th inst., when Mr. Patrick V. Alexander paid the club a visit. In a short address Mr. Alexander spoke to the meeting on the doings of the Hampshire Aero Club, of which he is the founder president, and handed round some highly interesting photographs of gliders in flight. He also expressed his wish to give every assistance to the Sheffield Club, and by way of putting his desire into practical effect, generously offered to send the club a full-sized glider, providing a suitable ground could be found. Mr. Alexander further offered to give personal instruction to the members of the club in the art of gliding. Needless to say the offer was accepted, and on a vote of thanks being passed there was considerable enthusiasm. Before leaving, Mr. Alexander wished the Sheffield Club every success, and extended a hearty invitation to the members to visit at any time the Hampshire Club's headquarters at Fort Grange. A further increase in the membership took place, and the secretary again reminds those who are not already members to join at once, as the present subscription—half a guinea per annum—will shortly be raised and an entrance-fee charged. The next meeting will be held on Wednesday evening, the 29th inst., at 8 p.m. Club's Works, 26, Paradise Street, Sheffield. All members are requested to attend, as important developments are expected to take place. Non-members are also specially invited to this meeting.

### Women's Aerial League (227, STRAND, W.C.).

A BANQUET was held at the Savoy Hotel on Tuesday last, at which Lady O'Hagan presided, supported by, among others, Lady Beerbohm Tree, Lord and Lady Llangattock, the Hon. C. S. Rolls, the Hon. Lady Shelley, Sir Samuel and Lady Evans, Major Baden-Powell, &c. It had been intended to present Mr. Grahame-White with a gold medal, but he was detained in Paris, so the ceremony was postponed to a later date, when the Hon. C. S. Rolls will be similarly honoured.

## YORKSHIRE CLUB'S MODEL COMPETITION AT LEEDS.

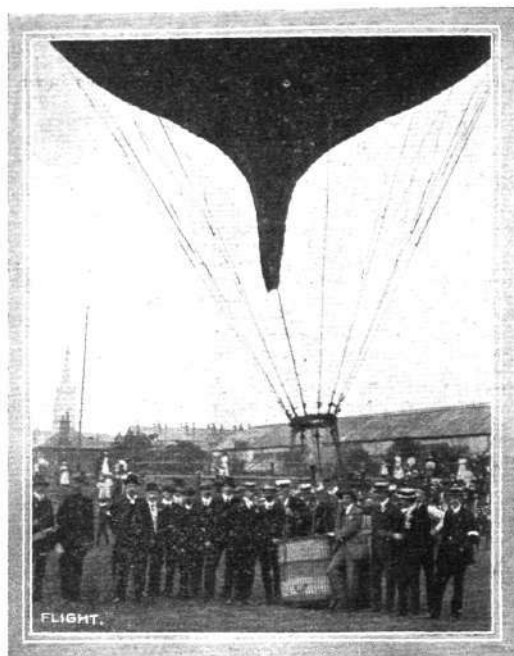
THE Yorkshire Aero Club provided a most interesting afternoon's display for a numerous crowd of spectators on the Leeds Football Field at Headingley on Saturday. The attraction included model competitions, for which there were thirty entries; ground manoeuvres by a full-sized cross-Channel type of Blériot, piloted by Mr. J. W. House, of Bradford, the first Yorkshireman to fly; a balloon ascent by Capt. Bramhall, of Bradford; and the exhibition of the Leeds-made Isaacson 60-h.p. engine (designed by a member of the club) with which Mr. Claude Grahame-White intends to fit his new Sommer machine.

The best model flight of the afternoon was by a little monoplane owned by Mr. J. Whitaker, of Kirkstall, which flew 328 ft. in 13½ secs. Other excellent distances were covered by the models belonging to Mr. J. Gaunt and Mr. A. W. Ingram. Great interest was taken in the runs and hops of the biplane, fitted with a 12-h.p. petrol engine, belonging to Mr. D. Stanger, of Bradford. Once it ran into the half-filled balloon, but happily no damage was done.

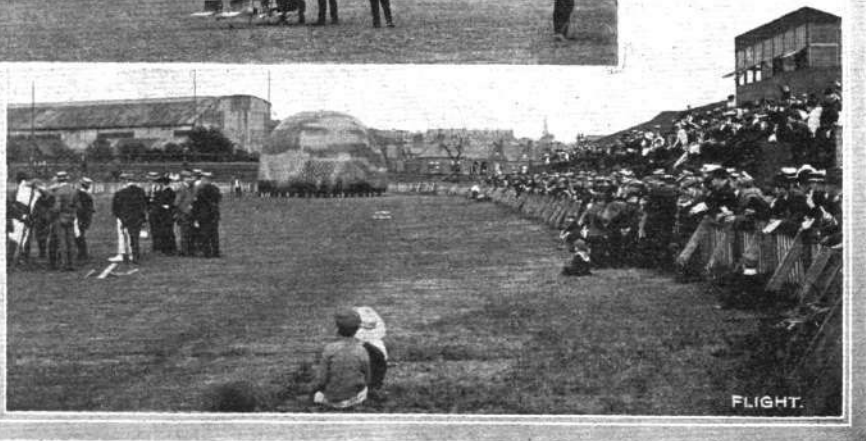
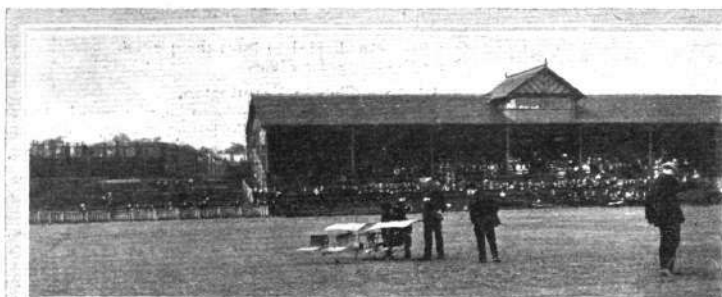
Captain Bramhall took up with him in his new 20,000 ft. capacity balloon, known as "King George V," a skilled aeronaut and member of the club, Dr. Vaughan Bateson, of Bradford. It was a magnificent trip in perfectly calm weather, the balloon once reaching an altitude of 7,000 ft. It travelled very slowly, and descended safely about sunset at Knapton, a few miles from York. During the course of the journey, the aeronauts brought the balloon to within a few hundred feet of the ground near Lord Hawke's residence at Wighill, and conversed with some farm hands below.

The arrangements for the most successful afternoon's programme were carried out by a sub-committee consisting of Mr. S. W. Fitzgerald, Mr. R. G. Macpherson, Mr. Kirby Johnson, and the hon. secretary of the club, Mr. Herbert E. Harwood. Prof. Goodman, of the University of Leeds, and Dr. Vaughan Bateson, were judges in the model competitions.

The snapshots were taken by Mr. J. E. Breanan and Mr. H. Smith, of York.



YORKSHIRE AERO CLUB MEETING.—Ready for the balloon ascent by Captain Bramhall from the Leeds Football Grounds last Saturday.



YORKSHIRE AERO CLUB MEETING.—General view of the Leeds Football Grounds on Saturday where the competitions took place. In the distance the balloon is being inflated for the ascent which formed a feature in the day's entertainment. Inset above is seen Mr. Stanger's petrol-driven model being started.

## CORRESPONDENCE.

\* \* The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

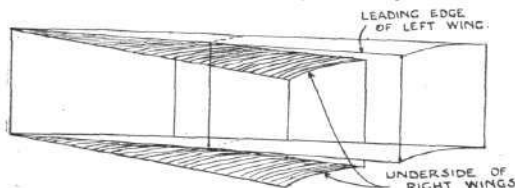
Correspondents asking questions relating to articles which they have read in **FLIGHT**, would much facilitate our work of reference by giving the number of the letter.

NOTE.—Owing to the great mass of valuable and interesting correspondence which we receive, immediate publication is impossible, but each letter will appear practically in sequence and at the earliest possible moment.

### THE DUNNE AEROPLANE CONTROL.

[576] In considering the control of our machine, it is essential to remember that the wing tips are *not* normally inclined at a positive angle to the trajectory, as is the case in every other machine. Actually they are at a negative angle.

When we want to steer to the right we pull back the right-hand lever, thereby elevating the trailing edge of the right-hand flap. In an ordinary system, regarding the tip as normally positively inclined, you would say, "The angle of incidence of the right-hand extremity is thereby reduced." This is incorrect. The angle of incidence, which is *negative* is thereby *increased*, and the drift, one might almost call it the negative drift, is increased. This wing, therefore, tends to hang back, at the same time, owing to the increased negative inclination, this side is depressed. One could steer by this movement alone, were it not that the flap, situated behind the centre of gravity, is an elevator, and when it depresses the right wing tip it depresses the rear of the machine as a whole. In order to counteract this elevator effect, we simultaneously push forward the left-hand lever, thereby lowering the trailing edge of the left-hand flap. This does not "increase" the angle of incidence on that side, but *decreases* the previous negative angle of incidence of that side. This left side then has more lift than it had before, and balances the elevator effect of the right-hand flap. At the same



time, owing to the decrement in the negative angle, this left tip has less resistance than formerly, and so travels faster than before, thus aiding the turning movement slightly. Since the right tip is depressed and the left tip raised, the machine is banked with the right side lower than the left.

Possibly some may imagine that this banking is the reverse of that usually done in rounding a corner with an aeroplane, as there appears to be some confusion in aeronautical literature on this point. Most people seem to argue that when a machine is circling to the right, the left side, which travels faster than the other, rises, tending to capsize the machine, and that ailerons or warping have to be used to keep the right side up. The problem is really a purely quantitative one. The effect of any rudder action is primarily to point the machine's head in the new direction. Then you have the centrifugal tendency of a machine of, in our case, 1,700 lbs. to contend with. Is the banking which occurs owing to the outer wing moving faster than the inner sufficient to overcome centrifugal movement

(which is of course a sort of side-slip) or not? The answer obviously depends on the mass, the speed, the radius of the circle, and the design of the machine. In a machine with a big dihedral surface forward, like the Antoinette, or big vertical surfaces well forward and above the centre of gravity like the Voisin, the centrifugal motion, which occurs as soon as the bow is diverted from its previous course, produces reactions on the underside of the dihedral wing, or on the vertical panels, tending to cant up the outer side considerably, quite apart from the lift it might get owing to its relatively faster movement. In our own machine the immediate effect of this centrifugal side-slip would be to depress the outer wing. You will see this if you look at the machine from the side in one of your photographs. Thus: the machine is turning to the right, and the centrifugal movement, which we are assuming for the moment to be unbalanced, causes it to skid to the left. The rough sketch above shows the position, the machine skidding towards the spectator. Notice that the left-hand surfaces appear as a comparatively thin edge, while a very broad expanse of the under surfaces of the right-hand side is exposed. The right-hand side is thus lifted and the left depressed. This is more than sufficient to counteract the tendency of the left to rise owing to its relatively faster motion. Therefore our controls are arranged so as to cause the outer side to rise and the inner side to fall. As a matter of fact this machine can bank up on a sharp turn to over 45° without any centripetal movement being apparent.

J. W. DUNNE.

[The above very lucid explanation of the steering of the Dunne aeroplane was sent in reply to an editorial letter on the subject, and as we feel that our readers would prefer to have Lieut. Dunne's description in his own words, we are publishing the letter itself simultaneously with our article on the machine.—ED.]

### SINGLE-SURFACED PLANES.

[577] Re Mr. S. A. Hall's letter, No. 490, in your issue of April 30th. I am inclined to argue in favour of leaving the ribs of a single-surfaced plane exposed on the under side, as any resistance on the upper surface of a plane would lessen its rising effect. I have found from experiment that slight irregularities on the under surface tend, if anything, to increase the lift.

Mitcham.

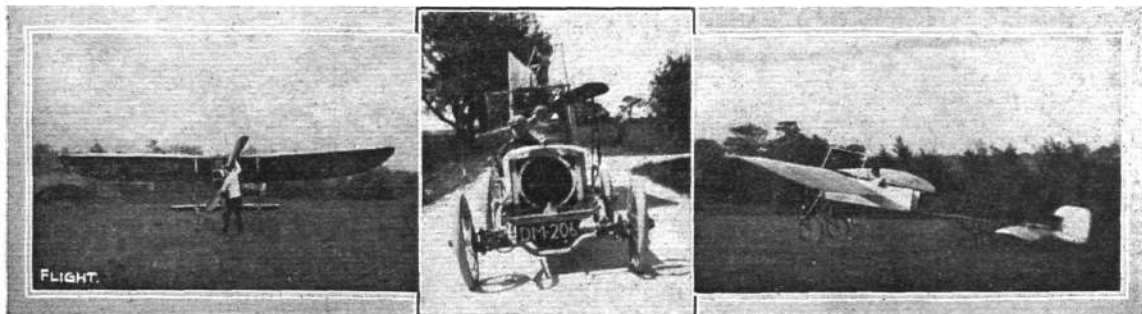
G. R. BRAGG SMITH.

### A BLÉRIOT IN NORTH WALES.

[578] I enclose some photographs of my Blériot monoplane, and as I claim to be the first one to fly on an aeroplane in North Wales I thought they would be interesting to your valuable paper. I have been practising for some time on my machine, and had rather a nasty smash about two months ago, landing in the railway hedge from a height of about 30 feet. However, on the 26th of May I towed my machine to a large field, and succeeded in making a flight of half a mile, during which I attained a height of about 70 feet. The centre photograph shows the method of towing the Blériot behind my car. In the left-hand picture I am starting up prior to my flight, and that on the right was taken by my mechanic immediately after landing. The Blériot behaved very well during the flight, at the end of which I switched off and glided down, and, although it bumped a little on landing, nothing was damaged. Since then I have made numerous small flights, and hope to do better when I become more accustomed to the machine.

Bodfari, North Wales.

VIVIAN V. D. HEWITT.



Mr. Vivian V. D. Hewitt's Blériot.

## POWER REQUIRED.

[579] In reply to "Vinot's" query [492] in your issue of April 30th, 1910, I beg to submit following figures:—Total span, 30 ft.; width, 6 ft.; aspect ratio, 5; engine, 25 b.h.p. (weight, say, 125 lbs.); total weight, i.e., lift = 625 lbs.; taking angle of incidence = 8°.

At a speed of 44 m.p.h., 1 sq. ft. should support 3.5 lbs. at above angle of incidence.

Therefore, 180 sq. ft. should support 630 lbs. = *actual* lift.

Taking into account the approximate effect of skin and head resistance (assuming good design and construction), the ratio of "lift" to "drift" = 6 to 1. Therefore drift = 105 lbs., which will be the thrust or pull required of the propeller when moving forward at 44 m.p.h. (about 64.5 ft. per sec.).

Therefore, useful b.h.p. required =  $\frac{105 \times 64.5}{550} = 12.3$ .

The total b.h.p. necessary will, of course, depend on the efficiency of the particular design of propeller employed.

However, assuming a propeller efficiency of 50 per cent., which is low for a good design, the b.h.p. of engine should be 24.6.

I find the above data and figures agree approximately with the particulars of the Blériot cross-Channel monoplane given in issue of FLIGHT for April 23rd, 1910, p. 367, and to which I would refer "Vinot," as the areas, weights, &c., are somewhat similar to those in his query.

Dublin.

R. L. B. STEELE.

## THE GNOME ENGINE.

[580] I notice your correspondent Mr. B. H. Balassanian draws attention to the gyroscopic action of the Gnome rotary motor, and accordingly predicts that the cause of the accidents to M. Delagrè, and more recently to M. Le Blon, are due to that cause. He apparently omits to take into consideration, however, that it was on the same type machine—a Blériot—that the accident occurred, and from what I can gather from eyewitnesses it was the same member that gave way.

I feel sure that anyone who has gone thoroughly into the construction of the Blériot monoplanes must admit there are defects and weaknesses. When a higher powered engine, Gnome or otherwise, is installed, these weak points are clearly shown.

I think the doings of M. Paulhan, also Mr. Farman and others, is sufficient proof of the utility, reliability, and all round good qualities of the Gnome motor.

If it really were the gyroscopic action of the motor (which is so extremely successful on the biplane) that caused the above accidents to the monoplanes, this is another argument in favour of the biplane, taking it from the point of view that the monoplane construction was right and that the machines were airworthy.

Hungerford.

G. H. BROWN-EKINS.

## PUBLICATIONS RECEIVED.

*Bulletin of the Swiss Aero Club.* Nos. 1 and 2, March and April, 1910. Berne: The Swiss Aero Club. Price 1 fr. 25.

*L'Aeroplan de l'Avenir.* By Henry Picq. Paris: Librairie Aeronautique, 32, Rue Madame. Price 1 fr. 50.

*Le Constructeur de Petits Aeroplanes.* By R. Petit. Paris: Librairie Aeronautique, 32, Rue Madame. Price 1 fr. 50.

*Peggy the Aeronaut.* By J. L. J. Carter. London: Everett and Co. Price 1s.

## Catalogues.

*E.N.V. All-British Aviation Motors.* Warwick Wright, Ltd., 110, High Street, Manchester Square, W.

*"Tellier" Aeroplanes.* Aeroplane Tellier (Great Britain) Co. D. L. Santoni, 10, Coburn Place, W.

## NEW COMPANY REGISTERED.

**Davidson's Gyropter Flying Machine, Ltd.**—Capital £250, in 1d. shares. Formed to acquire from G. L. O. Davidson certain patents and rights relating to flying machines.

## Aeronautical Patents Published.

Applied for in 1909.

Published June 23rd, 1910.

25,480. B. J. PRESSEY. Aeroplanes.

Applied for in 1910.

Published June 23rd, 1910.

5,646. H. L., A. E., and H. O. SHORT. Valves for gas containers.

## DIARY OF FORTHCOMING EVENTS.

### British Events.

1910.	1910.
June 27-July 2 Wolverhampton.	July 23 Balloon Race, Hurlingham.
July 2 Balloon Race, Hurlingham.	July 28-Aug. 3 Blackpool.
July 9 Coventry Ae.S. Model Trials.	Aug. 6-13 Lamark.*
July 11-16 Bournemouth.*	Aug. 15-20 Blackpool.
July 16 Kite and Models Competition. Kite and Model Aeroplane Assoc.	Aug. 24-27 Cardiff.
July 20-24 Doncaster.	Aug. 17-24 Southend.
	Sept. 1-3 Folkestone.
	Sept. 6-10 Durham.

### Foreign Events.

1910.	1910.
June 19-26 Rouen.	Sept. 25-Oct. 3 Biarritz.
July 3-10 Rheims.*	Oct. 18-25 St. Louis. Gordon-Bennett.
July 24-Aug. 4 Belgium.*	Balloon Race.
Aug. 6-21 Circuit de l'Est (Marin).	Oct. 25-Nov. 2 America. Gordon-Bennett Aviation Cup.
Aug. 25-Sept. 4 Havre-Trouville.*	Dec. 4-18 Marseilles.
Sept. 24-Oct. 3 Milan.*	

\* International.

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8, " 20,	"	Aeronautical Bibliography.		
		Wright Bros.' Elevator Patents.		
		Flying Ground at Farnbridge	1	0
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